

# Herald Tribune

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Afghanistan	610 Div. Israel	15,700 Norway
Austria	175 Italy	1200 Lee Oman
Bahrain	450 Div. Jordan	450 Fins Portugal
Belgium	37 Fins	She 1600 Costa Rica
Canada	C.S. 110	Back of Ireland
Cyprus	325 MAF	South Africa
Denmark	700 Fins	10 Posts
Egypt	400 Fins	Greece
France	8,000 Fins	Switzerland
Germany	2,200 D.M.	100 Posts
Great Britain	40 P.	Turkey
Holland	2,500 Fins	1,000 Posts
Iraq	175 Rok Nigeria	170 K. Yugoslavia

ESTABLISHED 1887

## Kremlin Readies New Missile Sites In East Europe

By Serge Schmemann  
*New York Times Service*

MOSCOW — The Defense Ministry announced Monday that preparations were under way in East Germany and Czechoslovakia for tactical nuclear weapons that would be stationed there if the Atlantic alliance went ahead with deployment of new medium-range missiles in Europe.

An announcement carried by Tass said: "These steps are of the nature of one of the planned response measures in case the American missiles are sited in Europe. They are directed at maintaining the equilibrium in the nuclear systems between the Warsaw Pact and NATO in Europe."

Similar statements by the East German National Defense Council and the Czechoslovak government were made public by Tass.

Soviet officials have threatened repeatedly over the past year, and explicitly since May, that one of the countermeasures to the impending North Atlantic Treaty Organiza-

tion deployments would be the emplacement of additional Soviet tactical rockets in Eastern Europe. The other responses that the Russians have threatened include terminating a moratorium, announced in March 1982, on deploying SS-20 medium-range missiles and taking "corresponding measures" against U.S. territory.

Monday's announcement, which dealt only with deployment of new systems in Eastern Europe, came as little surprise to Western diplomats. Last week, the defense ministers of the Warsaw Pact held what they styled an "extraordinary meeting" in East Berlin and announced that they had made an unspecified decision on maintaining military balance in Europe.

The East German leader, Erich Honecker, and several Soviet officials in Europe had also intimated that countermasures had been decided on and that they involved East Germany and Czechoslovakia. The brief Defense Ministry announcement did not specify what weapons would be deployed. It said that since the United States was completing preparations for deploying the new Pershing-2 and land-based cruise missiles in Western Europe, "the Soviet Union is compelled to adopt additional measures to ensure its own security and the security of its Warsaw treaty allies."

"In accordance with an understanding reached by the governments of the Soviet Union, the German Democratic Republic and the Czechoslovak Socialist Republic, preparatory work is being started on the territory of the GDR and Czechoslovakia for the deployment of missile complexes of operational-tactical designation."

Western experts in Moscow said the Russians appeared to be referring to the deployment of new tactical weapons that has been under way for some time. According to these experts, the Kremlin seemed to be using the impending Western deployments to justify a modernization of battlefield weapons that has, in fact, already begun.

The Western sources said the "operational-tactical" weapons to which the Defense Ministry referred were evidently new SS-21, SS-22 and SS-23 missiles, which would replace older Scud and Frog missiles. The SS-22 has a range of about 600 miles (965 kilometers), the SS-21 of about 60 miles and the SS-23 of about 200 miles.

As of early September, the sources said, the Russians already had 30 SS-21 missiles in Eastern Europe and were deploying an additional four per month. The nuclear warheads for these and the Scud and Frog missiles, the experts said, were believed to be stored near the launchers, and all were under Soviet operational control.

### ■ Soviet Will Attend Talks

The Soviet Union said Monday that it would attend an East-West disarmament conference in Stockholm in January, a few weeks after the scheduled deployment of U.S. medium-range missiles in Western Europe. As many as 1 million people joined the protests in West Germany alone.

In central Tokyo on Monday, more than 5,000 people turned out for an anti-nuclear rally at Meiji Park. No violence was reported.

In the Soviet Union, newspapers gave wide coverage Monday to the weekend demonstrations. Pravda

(Continued on Page 2, Col. 5.)



United Press International

Rescuers continued the search Monday at the U.S. Marine compound in Beirut.

## Weinberger Says Suicide Assaults Are Impossible to Defend Against

By Fred Hiatt  
*Washington Post Service*

WASHINGTON — Secretary of Defense Caspar W. Weinberger has asserted that no defense could stop a suicide assault like the one that devastated a U.S. Marine headquarters company in Lebanon.

"Nothing can work against a suicide attack like that, any more than you can do anything about a kamikaze flight diving into a carrier," Mr. Weinberger said Sunday.

Congressional critics said the bombing, in which a truck loaded with explosives rammed past three guard posts and through a barbed-wire fence before detonating inside the headquarters building, should have been anticipated because it resembled so closely an attack on the U.S. Embassy in Beirut in April.

But Pentagon officials said the Marine mission in Beirut — to help keep the airport open and return the city to normal life — specifically ruled out constructing the kind of fortress barriers that might have protected the marines.

[A] Marine Corps spokesman told The Washington Times in Washington that the truck's driver had to get through the following barriers to reach the headquarters building: First, the truck crashed through the barbed-wire fence, built on an anchored steel post, which closed off the airport parking lot near the Marine headquarters.

In addition, Mr. Weinberger, who reportedly opposed the deployment of marines to Lebanon

last year, argued strongly against adding to the U.S. contingent in the multinational peacekeeping force. An increase in the number of marines in the force, Mr. Weinberger said, "certainly is not the answer."

"This force is out sent to conquer Lebanon," he added.

Mr. Weinberger acknowledged that the bombing resembled the embassy attack last spring. But he said the Marine headquarters was an office building and could not be sealed off.

Pentagon officials said its vulnerability reflected the more general vulnerability of the marines, who are guarding the Beirut airport from flat, low land, surrounded by hills and unable to strike back except in self-defense.

The officials added, however, that occupying the high ground east of the airport would endanger the marines further.

As a result, the Pentagon was urging the White House to help protect that flotilla, in part by replacing ships that were ordered away from Lebanon just over a week ago when the cease-fire there was holding. But U.S. naval forces are stretched around the world, and officials said it would be several days before reinforcements could reach the area.

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# Long List of Crises Seems to Stretch Washington's Resources

By Don Oberdorfer  
*Washington Post Service*

**WASHINGTON** — The bombing Sunday of the U.S. Marine compound in Beirut produced a new crisis for U.S. foreign policy at a time when other aspects of the Lebanon problem and a long list of dangers elsewhere have stretched thin U.S. diplomatic and military resources.

The blast also caught the Reagan administration at

## NEWS ANALYSIS

a moment when key policy-makers concerned with the latest crisis are changing jobs at almost every level.

Included are a new White House national security affairs adviser, a yet-to-be-named new special Middle East negotiator, a new U.S. ambassador to Lebanon and a new assistant secretary of state for Near Eastern affairs.

On Friday, Oct. 14, and again Tuesday, President Ronald Reagan and the top echelon of his foreign policy team met in the situation room of the White House as the National Security Planning Group to survey the course ahead in Lebanon and the Middle East.

A tangible result of the discussion, according to administration sources, was a presidential decision last Tuesday that the marines' mission and personnel strength in Beirut should remain unchanged, despite

Pentagon reluctance to leave the troops in their exposed positions.

The policy-makers' concern had been heightened by a threat that developed shortly before the Oct. 14 meeting. For the first time, the marines in Beirut were conscious and definite targets of attack, in this case by super.

The sniper threat, which took the lives of two marines last week, was different from earlier incidents in which U.S. troops were caught in shelling that might not have been aimed specifically at them.

Although as late as Friday the State Department refused to acknowledge publicly that targeting of the marines created a new, more hazardous situation, officials said Sunday that U.S. diplomats were active in recent days in seeking to investigate and diminish the threat attributed to radical Shiite Muslim groups.

Despite the ominous development on the ground, there was optimism late last week that the long-delayed political process of reconciliation among contending groups in Lebanon would begin soon in Geneva.

The administration feels strongly, officials said Sunday, that this should proceed and that there is no reason to expect that the killings of marine and navy personnel and of French forces will interfere.

For the U.S. government and people, the death of so many servicemen in one day is a catastrophe, but in the killing ground of modern Lebanon, the death toll is not startling.

About 50,000 Lebanese and Palestinians, mostly civilians, were killed in the seven years of civil war after 1973, according to rough estimates. Another 17,000 were reported killed last year after the Israeli invasion of Lebanon, and the casualty count for this year in battles among Lebanese groups.

The basic results of the still-incomplete White House policy review, as far as Lebanon is concerned, are to be announced in a speech Thursday night in Philadelphia by Deputy Secretary of State Kenneth W. Dam to the American Jewish Committee.

Mr. Dam was designated for the job because Secretary of State George P. Shultz had planned to be on a trip to El Salvador and Brazil, a trip postponed after the bombings in Beirut.

Mr. Shultz's postponement of a visit to El Salvador because of an even more urgent problem in Lebanon symbolizes the strain on U.S. policy in a period of severe global and regional tension.

A U.S. flotilla recently was redirected from Central America toward the Gulf as the war between Iran and Iraq flared with new threats to oil routes.

Another U.S. naval task force, which had backed up the marines in Beirut from offshore positions, left the Mediterranean after the Sept. 26 Lebanese cease-fire, lingering to show the flag near the Gulf on its way to Asian waters.

Last week, still another U.S. naval task force heading for Lebanon was diverted to the Caribbean when a coup in Grenada appeared to endanger U.S. residents and interests.

In addition to Lebanon, the Gulf and Grenada, crisis spots include:

- Nicaragua, where CIA-supported guerrilla forces have stepped up attacks on petroleum facilities and the leftist Sandinista government has called for outside military assistance.

- Korea, where North-South tensions remain high after the Oct. 9 explosion that killed the top ranks of the South Korean cabinet during a visit to Rangoon, Burma. South Korea has blamed the bombing on North Korea.

- The Philippines, site of important U.S. military bases, where the rule of President Ferdinand E. Marcos may be imperiled by public and political reaction to the assassination Aug. 21 of a key opposition leader, Benigno S. Aquino Jr.

Meanwhile, demonstrations continue in Western Europe over the scheduled deployment of U.S. nuclear missiles beginning in December.

As the backdrop for all of this, relations between the United States and Soviet Union have sunk to the lowest point in more than a decade after reactions in the two capitals to the Soviet downing Sept. 1 of a Korean Air Lines passenger jet.

The unusual degree of tension between Washington and Moscow has generated an unusually poisonous atmosphere of superpower hostility in a crisis-filled world.

## WORLD BRIEFS

### Iraq Predicts End of War With Iran

**BAHRAM** (Reuters) — Iraq said Monday that the current Iranian offensive in the Kurdish mountains of northern Iraq would be the last battle of the three-year Gulf war and that the Iranians would be defeated.

Baghdad's war communiques said more than 5,000 Iranians had been killed and dozens of tanks and other pieces of equipment destroyed.

Meanwhile, government newspapers in Baghdad said Iraq would continue air and missile strikes on targets deep in Iran.

Iraq says its troops have captured 700 square kilometers (270 square miles) of Iraqi territory since it launched the offensive last week and have driven Kurdish rebels out of 100 square kilometers of mountain territory inside Iran.

### 3 Danish Parties in Accord on Budget

**COPENHAGEN** (AP) — Denmark's center-right minority government, after a week of difficult negotiations, won backing Monday for economic policies reversing two decades of growth in public spending.

Prime Minister Poul Schlater of the Conservative People's Party had threatened to schedule early national elections if he could not work out a compromise on budget issues with two parties whose votes are needed for a majority in the nine-party Folketing, the Danish parliament.

Monday's compromise with the centrist Liberal Party and the right-wing Progress Party ensured a reduction in real terms, for the first time in 10 years, in the Danish budget.

### UN Head Decides Cambodia Situation

**UNITED NATIONS**, New York (UPI) — The UN secretary-general, Javier Perez de Cuellar, said Monday that the situation in Cambodia was deteriorating in the absence of progress toward a peaceful settlement of the Vietnamese occupation of the country.

In a report to the General Assembly, Mr. Perez de Cuellar said the interest of the Cambodian people would be best served by a peaceful solution reached through a process of genuine negotiations. He added: "I am convinced that the continued absence of concrete progress toward that goal can only generate further tension and bring about a new deterioration of the situation."

Vietnamese troops invaded Cambodia in late 1978 and overthrew the government of the Khmer Rouge leader, Pol Pot. At least 100,000 Vietnamese troops are occupying the country. The assembly voted resolutions in 1979, 1980 and 1981 calling for withdrawal of foreign troops from Cambodia, the restoration of sovereignty and territorial integrity, and the right of the Cambodian people to self-determination.

The assembly will again debate the situation Tuesday.

### Philippine Activist Assails U.S. Bases

**MANILA** (UPI) — A government opposition leader, former Senator Jose Diokno, said Monday that U.S. military bases, including Clark Air Base and Subic Bay Naval Base, should be dismantled because they make the Philippines "a primary target in the event of a nuclear war between the superpowers."

Mr. Diokno also said a permit to stage a protest in front of the U.S. Embassy at the end of a three-day conference on nuclear war had been rejected by Manila officials. However, he said the Supreme Court ruled Monday that the city must justify its blanket denials of rally permits to opposition groups. If the court overrules the city, it will open the way for more and better-planned anti-government rallies, Mr. Diokno said.

Also on Monday, the court ordered the government to release from custody the mother and sister of the alleged killer of the opposition leader Benigno S. Aquino Jr.

### Papandreou Warns of a Conspiracy

**ATHENS** (NYT) — Prime Minister Andreas Papandreou said in an interview published Monday that Greek and international rightist interests were conspiring to overthrow his Socialist government by undermining the economy.

In an interview with the pro-government daily Ta Nea, Mr. Papandreou said the campaign was being aided by the rightist press in Greece and was aimed at ending his independent foreign and economic policies. He said a \$120-million fund had been set up "to undermine confidence in our economy."

"I don't know what form this will take, what name it will have, but it is undiluted poison poured out to undermine our economy and of course our government," the prime minister said.

Mr. Papandreou said he was sure the efforts would fail.

Andreas Papandreou

### Swiss Shift Slightly to Right in Voting

**BERN** (AP) — The conservative Radical Democrats outpolled the Social Democrats for the first time in 58 years in Sunday's Swiss parliamentary elections, according to incomplete but conclusive returns. Monday. Final results are expected Tuesday.

The slight shift to the right, expected in most prevote analyses, did not, however, significantly change the makeup of the 200 seats in the National Council, or lower house of the Federal Assembly. The latest projections predicted the Radical Democrats would win 25 percent of the vote, up from 24.1 percent in the election four years ago. The Social Democrats slipped below the 24.4 percent they polled in 1979. The Radical Democrats who last had polled the biggest share of the votes in 1975, were expected to have 54 seats, a gain of three, against 48 for the Social Democrats, a loss of three.

The complex Swiss voting system, in which one ballot can list candidates of several parties, barred firm estimates, but the two other major parties, the Christian Democrats and the People's Party, appeared to have held their own.

The biggest loser was the Communist Party, which held only one of its three seats.

### Georgia Gunman Called Fit for Trial

**AUGUSTA**, Georgia (UPI) — A man who took five persons hostage at the Augusta National Golf Club and demanded to meet with President Ronald Reagan was declared fit Monday to face charges of threatening the president.

Charles R. Harris, an unemployed millwright, was transferred Monday from University Hospital to the Richmond County jail after a doctor determined he was mentally and physically fit to appear in court. He had complained of chest pains after his arrest Saturday. In addition to the charge of threatening the president, Mr. Harris could be charged with possession of a firearm in the commission of a felony and assault on a federal officer. He also faces state kidnapping charges.

Mr. Reagan was playing golf at the club when Mr. Harris took two presidential aides and three other persons hostage Saturday at the club's pro shop. He demanded to talk with the president, who aides said was never in any danger.

### Talks on Air Safety Are Deadlocked

**NEW DELHI** (AP) — Representatives of international airlines meeting here Monday were deadlocked on the wording of a proposed air safety resolution that mentions the shooting down of a South Korean airliner last month, conference officials said.

The resolution was deferred for procedural reasons until Tuesday, the second and final day of the 39th annual general meeting of the International Air Transport Association. Director General Kurt Hamminken said. The resolution, submitted by the IATA executive committee, said the association pledged its full support to efforts "to maximize safety in the air."

Debate bogged down over a passage that said the resolution should be approved, "considering the use of force against civil aircraft, such as the tragic incident involving the KAL flight 007 on September 1, a matter of the gravest concern affecting air safety." Delegates could not agree whether to leave the wording the way it was, expand it to include other such acts or delete the reference to the shooting down of the Boeing 747 by the Soviet Union with the loss of 269 lives.

### For the Record

UNESCO delegates will gather Tuesday in Paris for a six-week general conference during which confrontations are expected over the funding, communications issues and human rights questions. (AP)

General Gennadiy Ryabkov, the president of Togo, met Monday with President Ronald Reagan in Washington. He is visiting the United States to encourage U.S. investment in Togo. (AP)

Striking workers in Chicago voted Monday on a tentative agreement that would let classes resume Tuesday. The 15-day walkout has been the longest in Chicago public school history. (AP)

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### Despite Soviet Air Strength, Afghan Conflict Is Standoff

(Continued from Page 1)

mjahidin positions relentlessly, but Soviet troops have stayed away from the fighting.

The battles have attracted more than the usual press coverage, since they are fairly close to the Pakistani border and mjahidin jeep can get very near the towns. The mjahidin thus stood to gain prestige and perhaps capture sizable amounts of equipment if they took the towns. But the strategic value of doing so is questionable.

If the towns fall, the Russians are considered likely to bomb them flat, and the mjahidin are unlikely to hold them. For some analysts, the battles for the towns exemplify the Afghan's tendency to spend a great deal of time, effort, ammunition and lives besieging the abilities of Soviet soldiers. Reports of low morale, drug and alcohol abuse, and poor motivation among Soviet troops appear to be borne out by examples of ineffectiveness in combat.

Yet the standoff continues. In large part it is a draw between an old-fashioned but dedicated and courageous resistance and the modern equipment, superior firepower and air force of a superpower. Other observations based on my travels inside Afghanistan and in the border area of Pakistan include the following:

• The mjahidin control vast expanses of the country in which popular support for them appears unshakable. In these areas, which Pakistan-based diplomats say cover most of Afghanistan, one can travel great distances without ever seeing any sign of the government.

• While the mujahidin fear and respect Soviet air power, their increased familiarity with their enemy has bred a measure of contempt for the fighting abilities of Soviet soldiers. Reports of low morale, drug and alcohol abuse, and poor motivation among Soviet troops appear to be borne out by examples of ineffectiveness in combat.

• Aside from humanitarian assistance to Afghan refugees, U.S. aid to the resistance is scarcely visible. This has led a number of guerrilla leaders to criticize Washington for allegedly not doing enough to help the mujahidin. While not directly supplying arms to the resistance, the United States is believed to be discreetly financing purchases on the international arms market and helping with logistics for deliveries from foreign countries, such as Egypt, that have stocks of Soviet weapons.

• The mujahidin inside Afghanistan are much better armed and organized than they were a few years ago. But their effectiveness may have reached a plateau that they cannot surmount without unity, more advanced arms and better organization. Major problems are rivalries and even outright warfare between some guerrilla groups, a shortage of good commanders and a continuing lack of effective anti-aircraft weapons, heavy arms and communications equipment.

## High Court Appears Receptive To Eased Church-State Barrier

By Linda Greenhouse  
*New York Times Service*

**WASHINGTON** — Among the items on the Reagan administration's agenda of "social issues" only one, the effort to promote religion in American life, has made headway in the Supreme Court.

The court has been cool to the administration's views on civil rights and abortion, but more receptive to arguments for lowering

### NEWS ANALYSIS

constitutional barriers between church and state. In decisions last term, it agreed with government lawyers that neither Nebraska's salaried legislative chaplain nor Minnesota's tuition tax deductions, which benefit mainly parochial schools, violated the First Amendment's prohibition of Congress' making laws on the establishment of religion.

Now the administration is asking the justices to take a giant step across the line dividing church and state and let Pawtucket, Rhode Island, continue its 40-year-old practice of including a nativity scene in an official Christmas display. That the Justice Department decided to join a local dispute, which the high court heard earlier this month and apparently hopes to decide before Christmas, is a measure of this government's determination to restore a religious fiber to American life.

Last year, the administration pushed cases involving religious observance of a general nature.

Nebraska's chaplain, for example, offered nondenominational prayers that avoided references to Christ. This time, the administration is asking the court to endorse the governmental display of a fundamental symbol of a particular religion, Christianity.

In his argument, Solicitor General Rex E. Lee did not rely on the analysis put forward by Pawtucket's lawyer — that Christmas nowadays is a "secular folk festival" so removed from its religious roots as to barely raise a constitutional question. Rather, Mr. Lee told the justices that Christmas is rooted in religion as "a matter of undeniable historical fact," and that to read the constitution as requiring the exclusion of that fact "from our national consciousness is nothing less than intellectual and historical dishonesty." It would be, he said "cultural censorship."

That view is not shared by the National Council of Churches, the one mainstream Christian organization to file a friend of the court brief. The council contended that government sponsorship "degrades and secularizes a sacred symbol of Christianity."

The administration went to some

length to put its position before the court, since the rules require only "friend of the court" to identify its "interest" in a case and the government's stake in Pawtucket's creche was not obvious. Thus, the administration's brief opened with an essay about how the government "from the earliest days of the republic to the present" has felt free to "recognize that religion is a part

of our heritage and should continue to be an element in our public life and public occasions."

The issue, then, goes beyond the content of a Christmas display. It is the Reagan challenge to the way the Supreme Court has analyzed the First Amendment's prohibition on Congress against establishment of religion. Beginning with Lemon v. Kurtzman, a 1971 opinion by Chief Justice Warren E. Burger striking down a state parochial aid plan, the court has applied a three-part test to laws challenged under the establishment clause. A law will be upheld only if it: reflects a clearly secular legislative purpose; neither advances nor inhibits religion as its primary effect; and avoids excessive governmental entanglement with religion.

In the Pawtucket case, which was brought by the American Civil Liberties Union, both the Federal District Court and the 1st U.S. Circuit Court of Appeals ruled that the creche lacked a secular purpose and so failed the test. On appeal, the government is asking the court to set aside the test in this case and take a fresh look at the creche as one of many symbols of a recognized national holiday.

That approach may be welcomed by justices who are receptive to the three-part test. They applied it only half-heartedly in upholding Minnesota's tuition tax deduction, and not at all in upholding the Nebraska legislative chaplain. If a majority agrees the test has outlived its usefulness, the creche dispute gives the court the chance to announce a new approach.

Mr. Mondale's backers said his 35 percent of the vote of the 2,325 delegates showed he could win in the South. Workers for Senator John Glenn of Ohio said they were satisfied with his third-place finish of 17 percent.

About 150 to 200 delegates, at the urging of labor unions, switched from Mr. Askew to Mr. Mondale during the Democratic convention, party leaders said. Political observers considered the vote a test of Mr. Mondale's endorsement by the AFL-CIO and the National Education Association, a teachers group.

Mr. Askew attributed his showing to a concerted effort by two better-financed and better-known candidates, Mr. Mondale and Mr. Glenn; the failure of about 500

delegates to attend; the major effort by organized labor on behalf of Mr. Mondale, and the newspaper poll.

That poll, conducted by three newspapers and published on the morning of the convention balloting, placed Mr. Glenn third with 19 percent.

"Where I lost was among people who weren't there when I was governor," Mr. Askew said of the newspaper poll.

### Mondale Wins in Northeast

Mr. Mondale held a commanding lead over Mr. Glenn in a Democratic presidential poll in New Hampshire, The Associated Press reported from Manchester. Mr. Mondale was favored by 44 percent to the Democratic nominee while Mr. Glenn was favored by 20 percent, the poll said.

But Mr. Askew said he was "happy and satisfied" with his total at the state convention poll. He said

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An videotape showing the arrest last year of the automaker John Z. De Lorean, left, by FBI agents, who are handcuffing him, was broadcast Sunday night by the CBS network.

## CBS Shows Tape of De Lorean's Arrest After Court Refuses to Bar Broadcast

Compiled by Our Staff From Dispatches

LOS ANGELES — An FBI videotape showing the automaker

John Z. De Lorean examining contents of a suitcase purportedly containing cocaine was broadcast nationally Sunday night by CBS News, which had won a court battle

about the tape earlier in the day.

The tape is thought to be key government evidence against Mr. De Lorean, who is facing trial on drug-trafficking charges. An attorney for Mr. De Lorean had warned that showing the tape would "unleash a circus unprecedented in court history."

Mr. De Lorean was arrested in Los Angeles in October 1982.

The tape showed Mr. De Lorean lounging on a couch in a hotel guest room and talking to a man sitting across from him, who is barely visible. Another man, identified in the CBS telecast as an undercover agent, entered carrying a suitcase, which he placed on a coffee table and opened.

"This is the other half that is going out of here as soon as we are done," the man is heard to say, and he added, "Between this and the other I'll generate, uh ... about four and a half, not less than four and a half mil."

Mr. De Lorean responded, "Good as gold. Gold weighs more than this, for God's sake."

Then the suitcase is put out of sight, a champagne cork is popped and Mr. De Lorean raises his glass

in a toast. "Here's to ... lot of success," said the man identified as an agent.

Then another man entered, identified himself as an agent of the Federal Bureau of Investigation and arrested Mr. De Lorean, who put his arms behind his back to be handcuffed.

"Hi, John. I'm Jerry West of the FBI," the agent said. "You're under arrest for narcotics smuggling violations. Would you stand up, please?" Mr. DeLorean responded, "I don't understand," but stood. He was handcuffed and sat back down again, where he was read his rights.

Mr. De Lorean's trial is scheduled to begin Nov. 1.

The trial prosecutor, James Walsh, argued emotionally against the release of the tape but was scolded by one of the judges for not keeping better control over the evidence and preventing a leak to the press.

At the local CBS station in Los Angeles, KNXT, five minutes of tape segments were broadcast Sunday night, including a segment showing Mr. De Lorean discussing the demise of his automobile company in Northern Ireland and his need for money to save the firm.

"This is what they call the nick of time," he said at one point.

A KNXT spokeswoman said the station has 10 tapes that last 12 hours and will broadcast other excerpts this week.

Earlier Sunday, at a hastily

### 3 Killed in San Diego Fire

United Press International

SAN DIEGO — Three persons were killed and 40 others were injured Sunday in a fire at a downtown apartment building.

"I think the release of these tapes is going to unleash a circus unprecedented in court history," Mr. De Lorean said. "The media would be irresponsible to release them prior to trial."

## Ruckelshaus Delaying Proposal on Acid Rain

By Philip Shabecoff  
*New York Times Service*

**WASHINGTON** — William D. Ruckelshaus, administrator of the Environmental Protection Agency, has put off indefinitely a recommendation to President Ronald Reagan on a plan to control acid rain because of opposition from high-level members of the administration.

Agency officials said the process of developing such a plan was still going on although the pace of work had slowed. They said they still expected a recommendation to be made.

But Mr. Ruckelshaus, who said last summer that he would have a recommendation for the president by the end of September, now has no timetable for an acid rain program, according to agency officials. They could say only that a recommendation was still possible before the end of the year.

Mr. Ruckelshaus went to the White House on Wednesday to discuss the issue with key presidential aides, including James A. Baker 3d, the chief of staff; Edwin Meese 3d, the president's counselor; and David A. Stockman, director of the Office of Management and Budget.

According to administration officials, no substantive decisions were made at the meeting.

One reported result of the meeting is that the environmental agency will look at new options for solving the acid rain problem that would meet the objections of the budget office, the Department of Transportation and other critics in the administration.

Acid rain precipitation that has a high concentration of acids produced by sulfur dioxide, nitrogen oxide and other pollutants emitted in the combustion of fossil fuels mainly from power plants and factories. It has a destructive effect on buildings and plant and aquatic life.

Environmentalists and some Democrats in Congress said they feared that Mr. Ruckelshaus's inability to come forward with an acid rain program after nearly six months in office indicated he could exercise little real power to protect the environment in an administration more concerned with reducing spending and easing the regulatory burden on industry.

David Hawkins, an environmental agency official in the Carter

### Danish Queen Visits Spain

Reuters

**MADRID** Queen Margrethe II of Denmark and her husband, Prince Henrik, arrived in Spain on Monday for a two-day state visit.

administration and now an attorney for the Natural Resources Defense Council, said the Reagan administration was trying to stall on an acid rain program until early next year, when it would be too late for congressional action before the presidential election.

That way, he contended, the president would appear to have proposed a program but would not have to impose costly controls on industry to reduce the sources of acid rain.

In September agency officials reported that, after an intense examination of options, Mr. Ruckelshaus was giving his chief attention to a limited experimental program aimed at cutting down sulfur emissions in four to six states in the Middle West to reduce acid rain in the Northeast, where its impact is a growing problem.

The cost of the program was estimated to range from \$1.5 billion to \$2.5 billion.

When Mr. Ruckelshaus presented the program to the President's Cabinet Council on the Environment, it was attacked as excessively expensive and unmanageable for political and other reasons.

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## Hearings Expected On Carter Papers

By William E. Farrell  
*New York Times Service*

**WASHINGTON** — A four-month congressional investigation into the conduct of the 1980 presidential campaign is expected to result in public hearings by mid-November that will focus on how Ronald Reagan's campaign obtained copies of briefing papers prepared for President Jimmy Carter in his television debate with Mr. Reagan.

The hearings were originally planned for this month, but the chairman of the House subcommittee conducting the inquiry said last week that "new leads" had been uncovered that required additional staff investigation.

The chairman, Representative Donald J. Altschuler, a Michigan Democrat who heads the Human Resources Subcommittee of the House Post Office and Civil Service Committee, offered no details about the "new leads." But he said he hoped the hearings could begin before Nov. 18, when Congress goes to recess.

The subcommittee investigation is being conducted parallel to one by the Federal Bureau of Investigation, and an agreement has been worked out whereby the bureau has been giving the subcommittee staff the information from its interviews.

The subcommittee staff of 10 has conducted more than 100 interviews and has studied Mr. Reagan's campaign files.

The subcommittee study is focusing on whether changes are needed in the Ethics in Government Act, which regulates the conduct of federal employees. The act of calling hearings would appear to reflect a feeling by the subcommittee that such reforms are needed, according to legislative experts.

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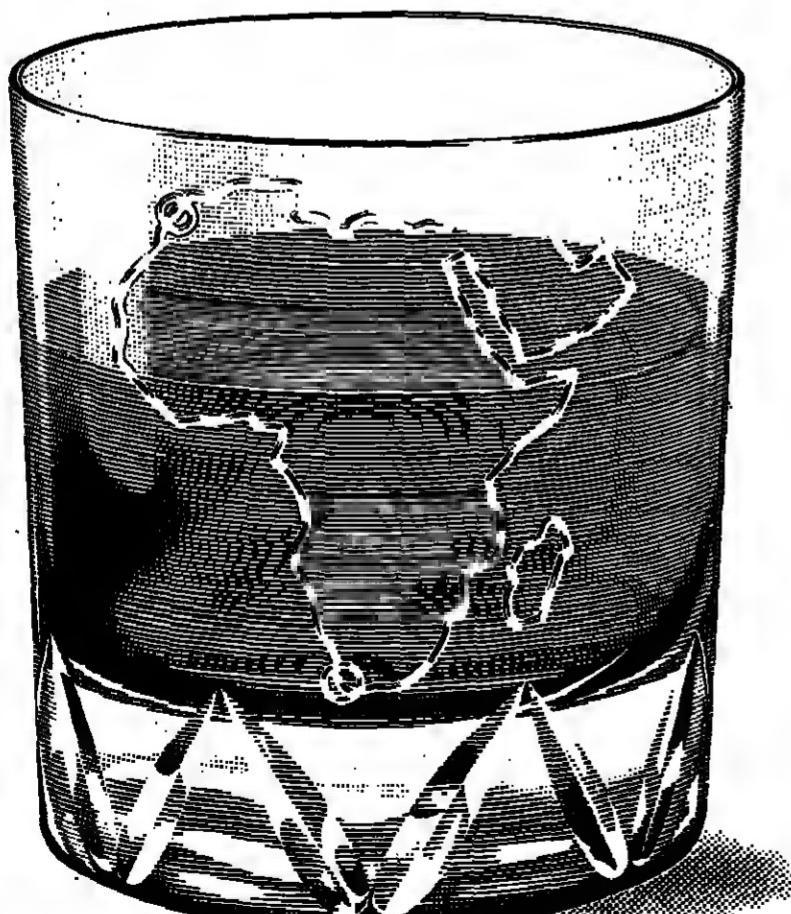
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Kenneth Kurze, a U.S. diplomat, speaks with reporters in Bridgetown, Barbados, after returning from Grenada, where he and other U.S. envoys visited with American residents.

## Grenada Keeps Airport Shut, Barring Americans and Britons From Leaving

*The Associated Press*

**BRIDGETOWN, Barbados** — Grenada kept its airport closed Monday, blocking at least 200 U.S. citizens and 40 Britons who want to leave the troubled Caribbean island, diplomatic sources said.

A spokesman for the U.S. Embassy in Barbados confirmed that there was no air traffic to or from Grenada, but added that "all options are under consideration as far as the departure of Americans is concerned." He declined to elaborate.

A Western diplomatic source said that between 200 and 300 of the nearly 1,000 U.S. citizens and 40 to 50 of the approximately 350 Britons on the island want to leave.

[President Forbes Burnham of Radio Free Grenada, which is government-controlled, said Sunday that the airport would open on Monday. But it later announced that the ruling military council feared an invasion by forces from the United States, Britain and some Caribbean countries.

The 16-member council, headed by General Hudson Austin, seized power Oct. 19, after Prime Minister Maurice Bishop, three cabinet ministers and several other Bishop supporters were killed by soldiers in St. George's, the capital.

Mr. Bishop had been deposed a week earlier in a move supporters said was arranged by his deputy, Bernard Coard, a radical Marxist. But Mr. Coard since has disappeared from sight.

In Washington, Larry M. Speakes, the deputy White House press secretary, said there was no indication of any danger to Americans in Grenada. He said civil violence was reported to be dwindling, but that "the situation remains unstable."

Grenada's 110,000 people faced a fourth day under a 24-hour curfew on Monday.

Four U.S. diplomats visited Grenada Sunday to interview Ameri-

cans residents, and one of the diplomats, Kenneth Kurze, later said Americans were not yet being urged to leave.

Leaders of the 13-nation Caribbean Community, or Caricom, decided Sunday in Trinidad to cut off all trade with Grenada. They also discussed possible military intervention to "restore normalcy" in Grenada, but were unable to agree on any joint action.

The leaders decided to restore normal relations with Grenada only when a broad-based civilian government is put in place with plans for early elections, according to Prime Minister George Chambers of Trinidad.

[President Forbes Burnham of Radio Free Grenada said the government feared an invasion would follow the Caricom meeting.

The broadcast said the military council sent a diplomatic note to the U.S. Embassy in Bridgetown, warning that an invasion would lead to the deaths of "thousands of men, women and children" and would be "a rude violation of Grenada's sovereignty and of international law."

The broadcast repeated earlier assurances that the lives and property of foreigners would be protected.

About 120 soldiers were observed arriving Sunday afternoon at the Barbados International airport. Hudson Tannis, foreign minister of St. Vincent, said policemen from his island state had traveled to Barbados to participate in a regional training program "in light of the present developments in Grenada." But he said there were no

More than 20 bombs were exploded in coordinated attacks in Lima.

## At Least 100 Held In Bombings by Guerrillas in Lima

*The Associated Press*

**LIMA** — Police arrested more than 100 people in connection with weekend bombing attacks in which five persons were killed, but the woman who is a key suspect was still at large, a Civil Guard spokesman said Monday.

The spokesman said many of those picked up in the sweep by 20,000 police in the capital were questioned and released. But he said at least seven with links to guerrilla groups were still being held.

He said investigators had determined that the bombing of the headquarters of the Popular Action Party Saturday night was led by Laura Zambrano. She is believed to be head of Lima operations for the Maoist guerrilla group, Sendero Luminoso, or Shining Path, which has been fighting the government for three years, he said.

More than 20 bombs were exploded in coordinated attacks in Lima.

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## Managua Plans Coastal Security Zone To Protect Oil Depots From Attack

By Robert J. McCartney  
*Washington Post Service*

**MANAGUA** — Nicaragua plans to declare a 25-mile security zone off both its coasts and move thousands of people away from vulnerable fuel-storage tanks in the nation's largest port in response to recent attacks by U.S.-backed counterrevolutionary guerrillas, according to government officials.

The steps reflect concern over the rebels' success at staging raids on coastal facilities from the sea. The security zone could lead to tensions between Nicaragua and the United States, which reportedly still has warships in waters off the Honduran coast, north of Nicaragua.

Under the naval and air security zone proposed by the junta, foreign military planes or ships would have to ask permission 15 days in advance before coming within 25 miles (40 kilometers) of the Nicaraguan coast. Civilian craft would have to seek permission a week in advance.

While the United States technically only respects a three-mile coastal limit, it has in practice kept ships more than 12 miles from the Nicaraguan coast, a U.S. Embassy spokesman said.

The United States or other countries with ships in the area might object to the 25-mile zone. A flotilla of U.S. ships was dispatched to waters near Nicaragua's Caribbean and Pacific coasts last summer in a show of force coinciding with military maneuvers in Honduras.

The Nicaraguan plan, outlined Sunday in the pro-government newspaper *Nuevo Diario*, does not explicitly threaten to attack military ships or planes that infringe on the 25-mile limit. Instead, it provides for fines of up to \$75,000 if the vessel or plane resists authorities seeking to expel it.

To enforce the zone, Nicaragua would have to rely on its small navy, made up mostly of small patrol boats.

The Council of State, the national legislature, is scheduled to begin considering the plan Wednesday. It is dominated by the Sandinistas, and approval is considered routine.

The Sandinist government also began over the weekend to promote a peace proposal it had presented in Washington on Thursday aimed at negotiating a halt in guerrilla attacks.

Daniel Ortega Saavedra, coordinator of the ruling revolutionary junta, sounded conciliatory when asked to comment on a U.S. statement calling the Nicaraguan proposals "deficient."

"We hope that they really will study them and plan political solutions," Mr. Ortega said Saturday.

The pro-government media had given relatively little attention to the peace proposals Thursday and Friday, but the official newspaper of the ruling Sandinistas front on Sunday ran a long editorial stressing Nicaragua's willingness to negotiate.

In another development, Mr. Ortega announced that repairs had almost been completed on an underwater pipeline that was sabotaged Oct. 14 at a vital oil-receiving terminal in Puerto Sandino. He said that negotiations were underway to rent a tanker to deliver oil after Exxon Corp. 10 days ago stopped providing tankers to carry oil to Nicaragua because of safety considerations.

A diplomatic source said a tanker had already been leased and was expected to arrive in early November. Tankers docking at Puerto Sandino provide more than

quarters of the nation's petroleum needs, and the government told citizens to expect tighter fuel rations after Exxon canceled its shipments.

The U.S. corporation acted after guerrillas of the CIA-funded Nicaraguan Democratic Force threatened to attack any tankers supplying oil to Managua.

The government also is planning to evacuate about 3,000 people from their homes around fuel tanks in the Pacific port of Corinto before Nov. 10, officials said. They

would live in new homes being constructed less than 10 miles away.

Corinto, with a population of close to 25,000, was evacuated Oct. 10 when guerrillas in a motorboat fired on the fuel tanks, starting a huge fire. Nicaragua also has suffered attacks by small aircraft in the past six weeks, but the boat raid caused more damage.

Mr. Ortega said the government was considering moving the port's entire population because of the danger of attacks.

## Hunger Problem Widening, U.S. Mayors Warn in Report

*United Press International*

**WASHINGTON** — Despite the economic recovery and successful food programs by local governments and private groups, the problem of hunger is continuing to grow in American cities, the U.S. Conference of Mayors said Monday.

The conference, in a new report, "Responses to Urban Hunger," said the gap between the demand for assistance and the public and private resources to meet that demand "continues to widen."

"While local efforts have provided temporary relief to numerous city residents, they often do not serve all of the people in need," the report said.

The report, the second of two funded by the American Can Co. Foundation to examine hunger in U.S. cities, found a number of successful private and public food programs in Cleveland; Columbus, Ohio; Detroit; El Paso, Texas; Indianapolis; Knoxville, Tennessee; Philadelphia, and Seattle.

Examples of successful programs cited included emergency telephone lines for food in Detroit and Philadelphia, food banks in New York, Seattle and El Paso, emergency food coalitions in Columbus and Cuyahoga County, Ohio, a municipal food policy in Knoxville, surplus food commodities distribution in Nashville and Detroit, an urban gardening project in Cleveland, an emergency assistance fund in Indianapolis and an effort to raise awareness of the problem in New Orleans.

The report was released as the mayors' conference convened its seventh annual meeting of officials from city human services departments and as the weather began to turn colder, again threatening to aggravate the problems of homelessness and hunger.

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**SWEENEY** Robert J. V., DSC at his home on Oct. 21, peacefully. Beloved father of Sharon Shepple and Brenda Watson and beloved brother of Charles Sweeney. Requiem mass on Wed. Oct. 25 at 11 a.m. Farm Street Church, W.I. and thereafter at Brookwood Cemetery, Woking.

## DEATH NOTICE

**Mr. Gregg CONWAY**, Chairman of the art department, in the Paris American Academy, just died. The funeral service will be held at the Père-Lachaise, on Wednesday, October 26, at 10:30 a.m.

International Herald Tribune

Coastal Security  
Reports From Allies

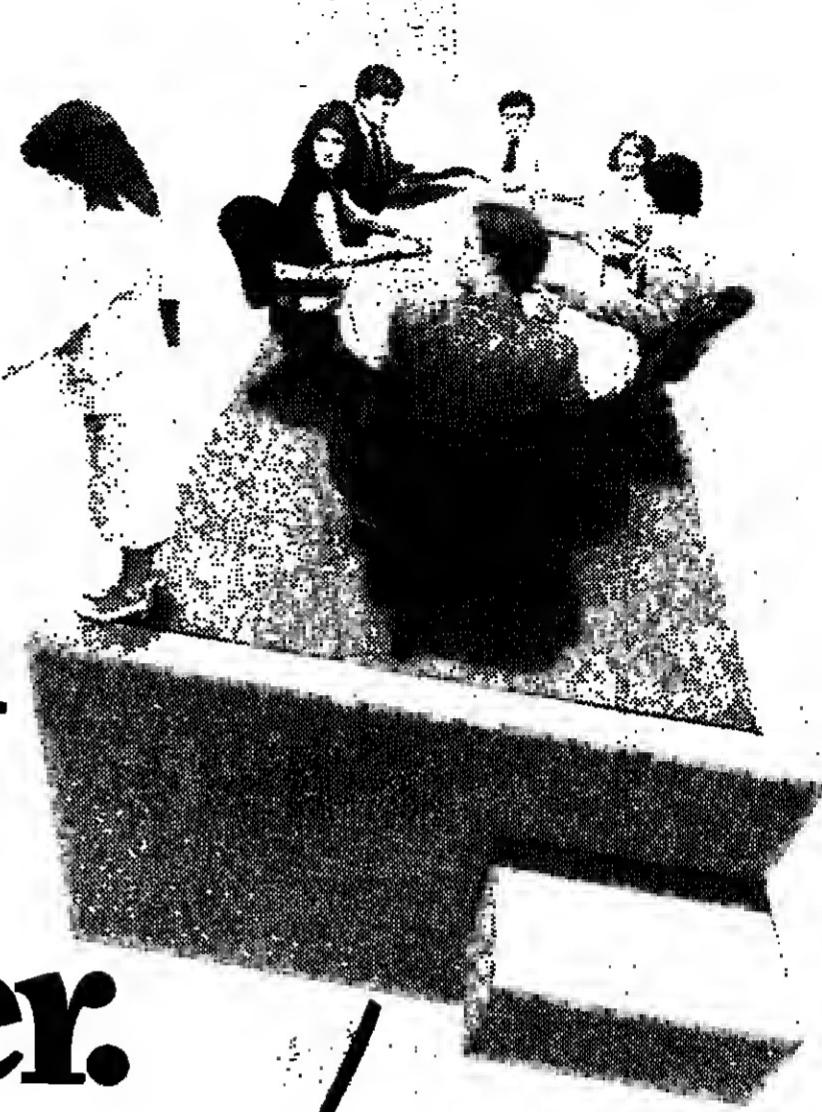
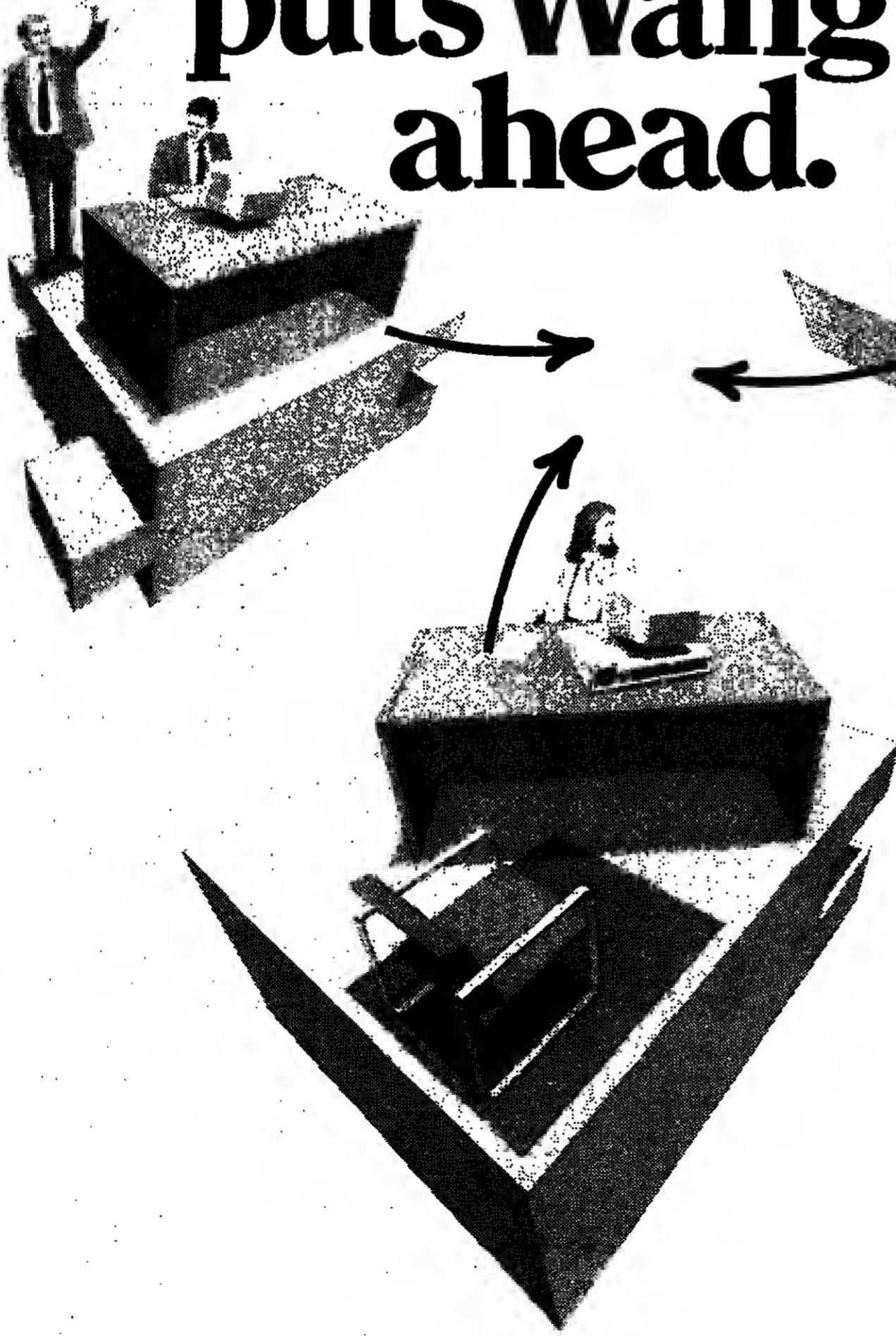
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## America Held Hostage

Once again the United States is held hostage by Middle East circumstance beyond its control, and this time there is no escape through daring rescue missions or ransom negotiations. Honor and prestige are again on the line, but the U.S. Marines who claim them are dead. They are the victims of a murky diplomatic cause that President Reagan feels bound to reaffirm but still cannot fully define.

There are no words, as Mr. Reagan said, to express our grief at the losses of American and French troops. But where are the words that express their purpose and the conditions under which they would finally depart? The dilemma was more candidly stated by France's foreign minister, Claude Cheysson. His nation, too, he observed, "isn't accustomed to giving up under pressure, but we must ask if our force's military role is really necessary."

It is a proper question now that the cost of the troops' inert presence around Beirut has been so shockingly raised. It is gib to rush to answer in the first hours of despair.

The 5,000 American, French and Italian troops in Lebanon are not a "peacekeeping" force neutrally protecting an agreed political arrangement. They guard the airport and other approaches to Beirut on behalf of a weak Lebanese government seriously challenged by assorted private sectarian militias. Some of these sects are beholden to Syria, which keeps 40,000 troops in Lebanon and aims to control the eventual government in Beirut.

The Syrians, in turn, are stiffened by at least 5,000 Soviet "advisors" who operate missiles in Syria that cover a large part of Lebanon's

territory and airspace. They are strategically matched by Israel, which humbled the Syrians on its march to Beirut last year but has since retreated to avoid the kind of casualties that are now being inflicted on the marines.

Israel helped to create the Gemayel government but has long since despaired of bringing order to Lebanon. It has offered to withdraw altogether if the Syrians also withdraw. If not, it will control southern Lebanon while acquiescing in the partition of the country. The U.S. Marines serve no Israeli military need.

To abandon Lebanon to Syrian domination can be represented as a defeat for the West and a triumph for Soviet policy. But it would more accurately be only a surrender to the chaos that prevailed between 1975 and 1982. The Western forces were withdrawn once, 13 months ago, after briefly monitoring the PLO's evacuation from Beirut.

They were reinserted only after the murder of President Gemayel's brother, Bashir, and mainly to honor a commitment to protect Palestinian civilians from Phalangist massacre.

Only gradually did the marines' political mission grow, even as their physical situation had become progressively more vulnerable.

If their mission can be given a plausible objective and a foreseeable end, Sunday's tragic losses may be redeemable. But merely proving American mettle to the Russians is a poor reason for persisting. Helping Lebanon to achieve a frail independence is a worthy goal but not a vital American interest. The costs of that help cannot be indefinite.

— THE NEW YORK TIMES

Just when President Reagan had thought events were taking a turn for the better in Lebanon, a terrible explosion has taken the lives of well over a hundred American Marines. A parallel blast killed a large but undetermined number of French soldiers.

The shock of the event and the scale of the toll create a political force compelling a review not just of the safety of the marines but also of their basic mission and its connection to the overall American stakes in Lebanon.

It will be necessary to learn why, after the April 18 car-bomb explosion that claimed more than 60 lives at the U.S. Embassy in Beirut, steps were not taken to prevent a repeat suicide mission. Only last Wednesday, Mr. Reagan had conceded the difficulty of defending the marines in their vulnerable airport location. He is under heavy pressure now to ensure that new protective steps will suffice.

No longer can the Reagan administration contain its internal reservations about what the marines were supposed to be doing. A reluctant-from-the-start secretary of defense said on Sunday that the original mission — to give confidence to the Lebanese government and to cover the withdrawal of foreign troops from Lebanon — was still in effect. But the conditions underlying it have long since dissipated: Troop withdrawal has halted, and civil war, fed by outsiders, continues on a certain

— THE WASHINGTON POST.

## Other Opinion

### After the Carnage in Beirut

Lebanon has just been the scene of a stupefying massacre of elite troops, who died by the hundreds without having fought. There is little risk in surmising that the perpetrators of the revolting carnage were fanatics bent on martyrdom. But the precision of the operation, the back-up organization, the choice of targets and the simultaneity of the explosions imply superbly equipped instigators — that is, states.

However demented and excessive the style of this massacre, it was clearly a message from state to state, and the addressees know it. The message concerns the "Western solution" that the Americans — partly due to chauvinism and an inability to persuade their Israeli allies — have failed to bring about in the region. The "bold operation of patriotic forces" hailed by Libya (the only state to use that language) is clearly intended to dislodge the multinational force — which is at present one of the principal hopes of a beleaguered Lebanese state threatened with partition of the country.

— Henry Trewitt in the Baltimore Sun.

What can be done to prevent a recurrence of terrorist attacks? Expanding the marines' prerogative to open fire will not help much. The most realistic forecast is that the marines will remain in Beirut as a symbol of American stubbornness, but they will show more awareness and caution. With that, they will doubtless remain vulnerable to attacks, and the threat exists that the erosion of Western influence in Lebanon will continue.

— Haaretz (Tel Aviv).

Whoever stood behind this bloody act was aiming for precisely this reaction: a general, all-out and unrelenting demand to bring the troops home. But this thought must be rejected out of hand by anyone who considers the inevitable effect such a decision would have on U.S. standing and prestige, not only in this part of the world but globally.

— Maurin (Tel Aviv).

[U.S. withdrawal] would be seen as humiliation at the hands of a third-rate power like Syria. But in the long run the option of some kind of reconciliation with the Syrians, and a pullout of the Marines, cannot be written off.

— The Jerusalem Post.

### FROM OUR OCT. 25 PAGES, 75 AND 50 YEARS AGO

#### 1903: A Balkans Agenda Is Delayed

CONSTANTINOPLE — The pourparlers between the Powers concerning the programme of the Balkans Conference is meeting with difficulties because Turkey hesitates to express its views, which are indispensable. It is stated that Baron Marschall von Biberstein, the German Ambassador, advises the Porte to temporize in the hope that the efforts now being made to bring about an understanding between Turkey and Austria-Hungary will be successful. Sir Gerald Lowther, the British Ambassador, on the other hand, insists that Turkey shall come to a decision. It is that the Balkan festival prevents him from occupying himself with the question, will try to gain time.

#### 1933: America Enters Gold Market

PARIS — It matters little whether the initiative taken by President Roosevelt means the creation of an exchange equalization fund or not. The U.S. Government, through the Reconstruction Finance Program Corporation, a federal organism, is going to purchase gold against paper dollars. Several months before the abandonment of the gold standard, Europe withdrew its American deposits from New York. These withdrawals wiped out the foreign credits on the American centre, and the movements were offset by exports of American gold. The entire world has thus gambled on a fall of the dollar and on the inflation of the currency, and American exporters of capital have equally gambled on a lower rate.

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## For a Soviet-American Summit on Missiles

By Paul Warnke and David Linebaugh

WASHINGTON — A summit meeting between Ronald Reagan and Yuri Andropov is urgently needed soon. If there is no early summit with positive results on arms control, the United States will face a further deterioration in its relations with the Soviet Union, and Western Europe's confidence in American leadership will decline.

The cause of these probable developments will be the deployment of new American missiles in Europe beginning on Dec. 15 — medium-range deployments justified as a response to the Soviet SS-20 buildup.

The Soviets regard the Pershing-2 as an unprecedented threat to the command and control of Soviet strategic forces their most crucial and sensitive capability. They believe the cruise missile will add a new dimension to the arms race and significantly increase the threat from America. Mr. Andropov has warned repeatedly against these new weapons, vowing that Moscow will respond with new Soviet weapons that could threaten America in an "analogous" way.

In Western European public opinion polls show that confidence in U.S. leadership is at an all-time low. In West Germany, many believe that the United States has not made a real effort to negotiate a solution to the medium-range missile issue.

Chancellor Helmut Kohl has advocated a Reagan-Andropov summit. Bonn would support an agreement along the lines of the "walk in the woods" proposal — a reduction plan devised in July 1982 by INF (intermediate-range nuclear forces) negotiators Paul Nitze and Yuli Kvitsinsky. It provided for limited U.S. deploy-

ments and significant Soviet cuts.

The INF talks have been stalled on two issues: U.S. insistence that the warhead ceilings be global, thus limiting Soviet SS-20 deployments in Asia, and Soviet insistence that British and French forces be taken into account in calculating reductions.

In his United Nations speech of Sept. 26, President Reagan adopted a more flexible position regarding "global ceilings." The United States

is now apparently ready to accept a freeze on Soviet SS-20s deployed in Asia if the Soviet Union conceded INF equality in Europe. America would retain the right (but not exercise it) to match the Soviets in Asia.

On Aug. 26, Mr. Andropov told Pravda that the Soviet Union would "liquidate" all missiles withdrawn from Europe as the result of a reduction agreement. Up to that time, the Soviets had implied that they would simply redeploy a number of those missiles east of the Urals.

But neither side is showing any flexibility on another key matter — Soviet insistence that British and French forces be taken into account in calculating reductions. Thus, it remains for Mr. Reagan and Mr. Andropov to overcome inertia and put forward serious proposals here.

Mr. Andropov may want an early meeting with Mr. Reagan for a vari-

ety of reasons. Moscow confronts continuing problems of overriding importance to its security in its relations with Eastern Europe and China. It needs political stability between East and West in Europe — not a nuclear arms race. Yet the Soviets face a qualitative and quantitative expansion in Western theater nuclear forces — including a quadrupling of British and French forces.

The critical date for Mr. Andropov is Dec. 15, when the new American deployments are due to begin. He is negotiating against the clock.

To avoid adverse developments and take advantage of a strong U.S. bargaining position, the INF formula should be brought to a conclusion. The "walk in the woods" formula might be better than no agreement and an unlimited nuclear arms race.

On the other hand, this formula might be better than no military justification. The potential targets for these missiles are already covered by ballistic missiles; Poseidon missiles carrying 400 warheads that can strike the Soviet Union are assigned to the NATO commander. Due to its long coastline, the United States is far more vulnerable to cruise missiles launched from the sea than is the Soviet Union. Stopping Moscow from deploying such weapons has ob-

liged both sides to agree to a variety of intermediate-range aircraft in follow-on negotiations.

The two leaders will be prudent if they begin to compromise on their INF differences.

vious priority over deploying them.

As guidelines for negotiating an INF agreement, Mr. Reagan and Mr. Andropov should agree to restore the overall warhead balance on medium-range missiles that existed prior to the significant expansion of Soviet warheads that began in 1977. The Soviets would dismantle missiles carrying about 700 warheads, leaving about 300 warheads targeted on Europe and 300 targeted on Asia for a total of 600, the number deployed in 1977. British and French forces would not be taken into account in calculating these reductions, thus satisfying the Western INF position.

But, from the Soviet point of view, the outcome — 300 warheads aimed at Western Europe — would be about the same as if the reductions were based on the British and French levels.

For its part, America would cancel the planned deployment of the 572 Pershing-2 and ground-launched cruise missiles; the substantial Soviet reductions would eliminate the rationale for these new U.S. deployments.

And both sides should agree to deal with the issue of intermediate-range aircraft in follow-on negotiations.

The two leaders will be prudent if they begin to compromise on their INF differences. They will be bold if they meet at a summit to set in motion this process of accommodation on the gravest problem of our time.

Mr. Warnke is a former director of the Arms Control and Disarmament Agency; he was President Carter's SALT negotiator. Mr. Linebaugh is a former deputy assistant director of the ACDA. They contributed this comment to The Washington Post.

## Is Beirut A Reagan Waterloo?

By David S. Broder

WATERLOO, Iowa — The flat Iowa farmland on this fall day is done in black and gold, like the football team. The yellow of the mown leaves is reflected in the black pools of water, left by the rains that came too late to help the corn crop. Piles of pumpkins at the roadside stands accent the color scheme.

The car radio that provides company offers the standard Sunday fare. Religious broadcasts give way to the early afternoon pro football games. But there is also the news on the hour from Beirut, where the toll of Americans has risen from 85 to 120 to 135 even as the county towns disappear behind the car. And there is a chill in the autumn air that the bright sunshines cannot cure.

At the stop for a late lunch, the waitress says, "You heard what happened? Our boys probably thought they were safe on Sunday. But Sundays mean nothing to those people."

Then she voices the dread that has been there in the mind of everyone: the fear that must grip the hearts of every family with someone in Lebanon, awaiting word whether a son, brother or husband was killed. It is an old and all too familiar pattern.

Two weeks ago, when I was in New Hampshire with presidential candidate Walter F. Mondale, the news came that Sergeant Allen H. Siefert of Nashua had been killed by a sniper near Beirut. The shock wave rolled across the state, following Mr. Mondale from television studio to college lecture platform to radio call-in show. That brought bad memories of 1968, when every week seemed to bring news of fresh Vietnamese casualties to the villages of New Hampshire. Each new death sent reverberations through the electorate, in judgment on the political fate of Ronald B. Johnson.

How often in these past 15 years have news bulletins arrived from distant capitals to shatter the hopes and mock the strategies of American presidents! Mr. Johnson's dreams ended in Saigon. Jimmy Carter's ambitions were locked up with the hostages in Tehran. A reporter hearing last Sunday's shattering news could not help but wonder if Beirut would be Ronald Reagan's undoing.

We will not know for weeks or even months. Even before this latest tragedy, however, the vulnerability of the marines at the Beirut airport had caused Mr. Reagan more difficulty than any other topic at his televised press conference. On Sunday, the immediate reaction of people was to ask, with anger or anxiety, why the marines were left so exposed.

Mr. Reagan has learned, as several of his predecessors learned, that a president who pulls large numbers of Americans into the midst of another country's revolution or civil war is indeed giving hostages to fortune.

In this case nothing so tests the quality of a president's judgment or nerve as the decision whether to intervene in a Third World struggle. When Mr. Johnson expanded the American forces in Vietnam, when Mr. Carter admitted the deposed shah of Iran to the United States for medical treatment, when Mr. Reagan sent the marines to help "keep the peace" in Lebanon, they probably made the most fateful decisions of their presidencies.

Each believed that the United States had an obligation to its allies. Each of them understood that in the cold calculus of the world, a great power that refuses to exercise its power will not remain great for long.

But Vietnam sensitized Americans to the limitations of American power, as no other event ever did. When lives are lost, or put in jeopardy, in some foreign land, Americans now want quickly to know if the sacrifice is really necessary, if the legal justifies the human price and if the purpose is really attainable.

When the deaths come wholesale, as they did Sunday, the questions are expressed in anguished tones. So as the Sunday drive ended here in Waterloo, and the work of political reporting began again, the name of the site seemed sadly appropriate.

The assumptions of the past look likely to fade as fast as the colors of the golden trees. Once again the world is threatening to take over an American election, and events far away make the vaunted power of the presidency as much a burden as a blessing to its possessor.

The Washington Post



## Foreign Policy In an Abusive Debate Mode

By Stephen S. Rosenfeld

WASHINGTON — Why don't we all allow ourselves a second look at the American response to the downing of the South Korean airliner? A pattern of events has belatedly come into focus that could make a difference.

The pattern fell into place in a New York Times story of Oct. 6 that went straight to the central question of what did they know and when did they know it. American intelligence officials, the Times said, had reviewed all available evidence and found no indication that Soviet air defense personnel knew the plane they were firing at was a commercial airliner. This judgment was said to have gone to the White House two weeks after the attack.

The pieces of this story had been published earlier, but the assembly of the pieces permitted a clear view of a critical difference previously fuzzed: the difference between shooting down a plane knowing it was an airliner and shooting it down suspecting it was a military reconnaissance aircraft. It was not the whole difference between guilt and exoneration, but it is the partial difference between an act reflecting unforgivable cynicism and an act of explicable hardball.

In other words, U.S. intelligence fairly easily came to a view consistent with the Soviets' claim that they had taken the airliner for a military RC-135, one of which had been off their coast a few hours earlier. But American policy and opinion have not caught up with this view.

One trouble was that the Soviets added the charge, still not in the slightest substantiated, that the South Korean plane was doing espionage duty. Many Americans in and out of the government have found it easier to shoot that particular fish in a barrel than to square openly with the Soviets' assertion of mistaken identity.

Is Being  
A Reage  
Waterloo

By David S.  
WATERLOO

## Victorian Stage for Hayes at 83

New York Times Service

**N**YACK, New York — Helen Hayes sat on the veranda of her rambling Victorian house overlooking the Hudson River, drinking tea and recalling favorite memories of this place where she has lived for more than 50 years.

"All the wonderful, famous bodies that have plunged into that pool," she said, with a sweeping gesture toward the heated swimming pool that lies at the bottom of a terraced hill. "Leland Hayward. And Kate Hepburn — oh! that wonderful-looking creature. And Joan Crawford and Norma Shearer."

And John Barrymore. One morning he and Hayes's husband, the playwright Charles MacArthur, who died in 1956, decided that the water wasn't cool enough for a noon dip, so they ordered two truckloads of ice and had it dumped into the pool. "They both were terribly hung over," Hayes recalled. "They sort of wobbled down to the pool. Later, as Jack Barrymore was floating amidst the ice, he said he felt like a fly in a highball."

Hayes, who just turned 83, has lived in the 21-room house since 1932. There is nowhere else that she would rather be, she says — something she found out in 1963 after she briefly sold the century-old house to Herbert Ross and Nora Kaye and then schemed a charity auction of 993 items, many of them Victorian, that she had acquired from friends and fans over the years. She had taken an apartment in Manhattan, 30 miles (48 kilometers) to the south, and didn't have room for the memorabilia.

The house sale fell through — "Nora said she had never lived in anything bigger than a trunk and didn't want to take on this great big house," Hayes explained — but the auction went on as scheduled. "As an old performer," she said, "I just didn't have the nerve to call it off. Afterwards I moved back into an almost empty house."

With a little help from friends, Hayes began filling the place up again, and today, as she did before the auction, she lives like a queen in a Victorian dream house. According to Vera Benitez, her companion for 20 years, the 993 items that were auctioned have been replaced by 1,000 others, many of them Victorian and the house has always been Victorian."

"Oh, I'm so glad I didn't move to Manhattan," Hayes said, gazing out over the Hudson. "I would have missed this river so. I was going to settle in a five-room apartment, and sometimes I think of the miserable, empty time I would have had, calling people for lunch and walking up and down Central Park West."

The most dramatic room in her house is the living room, which is filled with chairs and couches covered with pink and green floral chintz. The ceiling-to-floor white lace curtains are topped by arched gilded crowns, and the burgundy carpet is so thick that a visitor gets a sinking feeling while standing on it. Hanging in a prominent place is an oil painting of Hayes's daughter, Mary, who died of polio in 1949, at the age of 19.

In an adjacent parlor a collection of engravings of Queen Victoria



Helen Hayes in the living room of her home in Nyack, New York.

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In an adjacent parlor a collection of engravings of Queen Victoria

and 15 of her ladies-in-waiting hangs on the wall, near a harpsichord that has been upended and fashioned into a display cabinet. An elegant Waterford chandelier hangs from the ceiling. Here and there are statues and dolls of Victoria and other pieces of Victoriana that have been given to the actress.

Hayes looked indignant when asked if her choice of decor had anything to do with her role as the queen in "Victoria Regina," in which she starred from 1935 to 1939. "Absolutely not!" she said.

"We were living in this house before I got the script for 'Victoria Regina' and the house has always been Victorian."

Asked why she was such a fan of the era, she replied: "It was the last comfortable period. I think that many people love it because it was a period of security — for the family and of finances. It was a golden era, perhaps a bit stodgy, but at least you had rules to guide you."

She added that she had been worried that her son, the actor James MacArthur, might find the house too fancy. But the first time he visited it after her redecorating was complete, she said, he smiled and told her: "Mother, it embraces you."

Hayes said her husband built a bar in the basement as a place to escape from the Victoriana. There she keeps a chandelier and three red velvet seats from the old Helen Hayes Theater, which was demolished amid much bitterness in 1982 to make room for the Marriott Marquis Hotel now going up near Times Square. In July the Little Theater on West 44th Street was renamed in Hayes's honor.

She also liked to go on "bit trips." She recently returned from a one-week cruise on the Mississippi Queen from St. Louis, Missouri, to St. Paul, Minnesota. "You get to be a river bus and you can't seem to break away from rivers," she said. Other trips take her out West to visit her sons and their grandchildren, Charles, 23, and Mary, 18. She usually spends the winter at her home in Cuernavaca, Mexico.

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## Figures, Scenes for Sale At Chinatown Museum

United Press International

**S**AN FRANCISCO — The lavish costumes, scenes and figures from the Chinatown Wax Museum are for sale — including a huge dragon at half price, \$4,000 — as the museum has closed to make way for a shopping center.

Ted Smith, a former clown, bought all 115 wax figures to sell. They cost about \$2,000 each when they were made 14 years ago in Hong Kong. Smith is acting as sales agent for costumes and props, such as a fortune cookie-making machine and slippers for bound feet. He said half the scenes and figures had been sold for display in museums and private homes.

In an adjacent parlor a collection of engravings of Queen Victoria

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## ARTS / LEISURE

### Glasgow Museum Features Art Trove

The Associated Press

**G**LASGOW — A museum housing a treasure trove of art amassed by the Scottish shipping magnate Sir William Burrell has been opened in Pollock Park, a wooded area three miles (five kilometers) from the center of Glasgow.

The \$20-million (\$30-million) museum's displays include Egyptian pottery, Chinese porcelain and jade, Oriental carpets, tapestries, European armor, Greek and Roman sculpture and a dazzling collection of 600 paintings, including works by Rembrandt, Cézanne and de Chirico. There are also medieval stone doorways, ivories and clocks.

For almost 40 years, while Glasgow tried to find a proper home, the collection lay in crates in dusty warehouses because the city had nowhere to put it. Bits and pieces were occasionally loaned out for exhibitions.

Sir John Rothenstein, former director of the Tate Gallery in London, said when the museum was opened Friday by Queen Elizabeth II: "Burrell was a collector of vast perception. The addition of his collection to Glasgow's other museums and art galleries gives the city an honored place among the great art centers of Europe."

Burrell made a fortune in the Boer War of 1899-1902. In 1916, halfway through World War I, he pulled off his biggest coup, selling almost his entire fleet at a huge profit in a world desperate for ships. Ten of the ships, which had cost him about \$40,000 and were almost 100 years old, were sold to Australia for £145,000 each.

After that, Burrell gave up business, retired to his castle on the Scottish-English border and began a worldwide quest for art.

made the shipowner an exceptional collector who were the same qualities that made him a millionaire.

"Very few collectors apply business methods to the art world," Marks said. "But Burrell did. He never forgot the lessons he learned in the shipping business."

William Burrell was born in 1861, the son of a smalltime Glasgow shipowner. He joined the family business when he was 15. He bought his first painting that year, for a few shillings that his father had given him to buy a cricket bat.

He and his brother George built the business into one of the largest steamship companies based on the River Clyde. William Burrell traveled the world searching out shipping deals with single-minded ruthlessness, Marks said.

He would wait for the bottom to drop out of the shipping market and then, when things were really bad, and the shipyards were desperate for work, he would place an order for ships, which he would get paid for half the usual price. Then, when the market picked up again in a few years, he would sell the ships for an extremely handsome profit.

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From 1911 to 1957 he spent about £20,000 a year on his collection. "It was nothing like the sums spent by American collectors such as William Randolph Hearst, but Burrell's collection was as good as any," Marks said.

"In fact, Burrell bought a lot of medieval stonework from Hearst when the American was going bankrupt. What Burrell lacked in scholarship he made up for with taste and a tremendous eye for a bargain, working through a small group of dealers whom he trusted. Among them was Alexander Reid of Glasgow, who had been a friend of the painter Vincent van Gogh."

Burrell insisted that his bequest be housed away from Glasgow's polluted air. He left \$450,000 to help build a museum, but the city still expects to have trouble paying for the building and coming up with the £2.8 million or so that it will cost each year to run it.

Construction of the museum took five years.

The building, made of red sandstone, Portland limestone, timber and glass, resembles a large greenhouse with a sloping roof. The north side, all glass, looks out over a wood while the south side is used for the stained-glass collection.

The interest on the money Burrell left is being used to add to the museum's holdings, even though the collection is so large that only 40 percent of the works can be displayed at once.

The latest purchase was the Warwick Vase, a 12-foot (3.6-meter) carved stone vessel from the second century A.D. The museum bought the vase, which weighs eight tons and was unearthed near Rome 200 years ago, when it was auctioned by the Earl of Warwick.

### Miles Davis in Warsaw: Jumpin' at the Jamboree

By Bryan Brumley  
The Associated Press

**W**ARSAW — The American jazz great Miles Davis blew his gold and black trumpet into a rare third encore at the close of the 25th Warsaw Jazz Jamboree.

A standing-room-only crowd of 5,000 mostly young Polish jazz fans packed into the Stalin-era "Hall of Congresses" in central Warsaw to see Davis, 57, who was given royal treatment Sunday night by the Polish Jazz Federation.

Polish television filmed the jamboree, though it was not clear if it would broadcast performances by the Western musicians.

This year's jamboree was the first since the declaration of martial law in December 1981. Last year the Polish Jazz Federation held scaled-down "jazz mamevents" instead of a full-blown jamboree.

The organizers wanted to avoid holding the 25th jamboree last year, since it would have signaled that everything was normal, and they might have faced a boycott by Polish musicians," said a Western observer of the Warsaw jazz scene. Several U.S. groups, including the Art Ensemble of Chicago, took part in the 1982 event.

Government spokesmen denied the reports. Walesa has won the prize for his leadership of the now-

outlawed Solidarity labor union.

The government has called the award a ploy in the East-West confrontation.

But politics took a back seat at the jamboree, which featured six U.S. groups, the Norwegian saxophonist Jan Garbarek and the West German bass player Eberhard Weber along with Miles Davis.

Polish television filmed the jamboree, though it was not clear if it would broadcast performances by the Western musicians.

"Polish jazz musicians have music a great deal," the Polish jazz critic Tomasz Szachowski wrote about Davis in the program. "Miles Davis doesn't have this many friends — great fanatics even — in any other European country," Szachowski noted that Polish jazz has grown despite "difficulties that don't exist elsewhere."

Jazz and other forms of Western music have put down deep roots in Poland, and observers give the quiet official effort to curb Western cultural influence little chance of success.

Jazz groups thrive in Warsaw and other Polish cities, and Polish bands have long enjoyed a good

reputation in the West. Leading Polish jazz ensembles that played in this year's jamboree, such as the String Connection and Zbigniew Namyslowski Air Condition, regularly tour Western Europe.

The jazz jamboree was started in 1959 and has featured such American musicians as Duke Ellington, Dizzy Gillespie, Dave Brubeck, Cannonball Adderley, Sarah Vaughan, Benny Goodman, Dexter Gordon, Pharoah Sanders and Muddy Waters.

### Tiny Shetland Stallion Is Sent to U.S. for Stud

The Associated Press

**L**ONDON — A pony measuring 24 inches (61 centimeters) at the shoulder has been flown to the United States to go to stud in California, according to the Sunday Telegraph newspaper.

The pony is a miniature Shetland worth £2,000 (\$3,000). It is believed to be the smallest pony ever exported from Britain to stud. The stallion and two mares were flown Saturday to the United States, where miniature horses sell for as much as \$100,000, the newspaper said.

## NYSE Most Actives

## Dow Jones Averages

## NYSE Index

## Monday's Closing

## AMEX Diaries

## NASDAQ Index

## AMEX Most Actives

## NYSE Diaries

## Odd-Lot Trading in N.Y.

## Standard & Poor's

## Dow Jones Bond Averages

## AMEX Stock Index

## AMEX Most Actives

## NYSE Most Actives



# COMMUNICATIONS TECHNOLOGY

A SPECIAL REPORT — PART I

TUESDAY, OCTOBER 25, 1983

Part II Will Appear  
In Tomorrow's Editions

Page 9

## Stocks Slide As Investors Get Skittish

By Arthur Howe

NEW YORK.— These are treacherous—not to mention, tumultuous—times for computer industry stocks.

While a select few companies like International Business Machines Corp. now enjoy market supremacy and Wall Street acceptance, a burgeoning group of less fortunate firms are locked in a death struggle for profits and solvency in the fast changing market.

The current decline in computer-technology stocks follows a spectacular 10-month rally beginning in August 1982 that saw values of most issues double, and even triple. But in each case the scenario has been roughly the same—a disappointing earnings report or a brokerage house review and suddenly the fragile investor support vanishes.

Even industry favorites like Apple Computer, which has solid earnings and market share, has fallen by 63.1 percent from its year's high. Another popular company, National Semiconductor, reported a 170-fold profit increase for its most recent quarter; yet, the stock retreated 2½ points. This was attributed to the fact that investors expected even higher earnings.

"The market has reacted a lot more severely [to earnings troubles] than it normally does," said Philip Rettew, a market specialist and assistant vice president of Merrill Lynch.

Companies like Warner Communications, maker of Atari home computer games, set the pattern for the computer-related stocks last December when prices of its shares dropped by 60 percent, from 59½ to 19½, after a surprise announcement of large losses. It is now trading at about 23½.

Then there was Texas Instruments, the Dallas-based maker of minicomputers. In mid-June the company abruptly announced that lagging sales would cause it to lose \$100 million in the second quarter. Within two days the company's stock fell \$3.50 a share, reducing the total market value of its 23.7 million shares by about \$1 billion.

A more recent list of low performers:

- Osborne Computer. Plagued with management chaos, engineering difficulties and production delays, the once high-flying Osborne filed on Sept. 14 for protection from creditors under U.S. banking laws. A public offering was shelved.

- Fortune Systems. After going public in March and raising \$95 million amid much fanfare, this software and hardware manufacturer reported a loss of \$3 million on revenues of \$12 million for the second quarter. An even larger loss is expected for the third quarter.

- Victor Technologies. This company decided to

(Continued on Following Page)



**INSPECTING THE BOARD** — The electronic board, literally the backbone of all electronic devices, must be individually inspected for flaws. A technician at the ITT subsidiary SEL's electronic board manufacturing unit in Pforzheim, West Germany, checks the board.

Kathleen Scott-Kemps

## Micromputer Software: The 16-Bit Success Story

By Jeffrey Tarter

CAMBRIDGE, Massachusetts — Late in January of this year, Lotus Development Corp., a small software company whose president made his living as a radio disc jockey on a rock 'n' roll station, began shipping copies of its first program to retail outlets. The program, called 1-2-3, was remarkable chiefly because it integrated several functions—that normally were available only on separate diskettes.

The new program became an almost instant success. Eight months after its introduction, microcomputer owners had bought more than 100,000 copies of 1-2-3, which retails for \$95. On Oct. 10, Lotus Development's founders offered 50% of their company's shares to the public. Investors paid \$6 million for only 13.2 percent of the company. Not all microcomputer software programs do so well, of

course. What is unusual about the Lotus program, however, is that it only operates on a new generation of so-called 16-bit computers—machines that were virtually unavailable to business users until late in 1981, when International Business Machines Corp. introduced its 16-bit Personal Computer.

The distinction between 16-bit microcomputers and their less powerful 8-bit predecessors (8-bit machines are still widely used, incidentally) is a technical one that few business computer users ever bother to puzzle out. Yet it is a difference that software industry experts generally agree profoundly transformed the microcomputer software business in 1983.

Bits are the tiny electronic impulses that computers use to store and process data, programs and screen graphics. As a rule of thumb, the more bits a computer can process

at one time, the more powerful it is. Most large mainframe computers gobble up data 32 bits at a time. Medium-size minicomputers chomp away sedately at 16-bit chunks, and desk-top microcomputers traditionally nibbled in 8-bit pieces.

In the fall of 1981, however, IBM introduced its long-awaited Personal Computer—a 16-bit microcomputer. The computer industry reacted with a certain degree of skepticism; one major computer-business magazine wondered if 16-bit machines were going to become "just a new status symbol" without much practical application.

But then IBM sales began to pick up steam. Within a year, IBM had sold more than 200,000 PCs. After 18 months, according to a market analyst, Portia Isaacson, of Future Computing in Richardson, Texas, IBM was selling more

(Continued on Following Page)

## Personal Computers: An Industry Shakeout?

By John Markoff

SAN FRANCISCO — The personal computer industry is unversed.

Six months ago this was the hottest game in town, but now, companies are facing the real prospect of an industry "shakeout."

At a recent conference in San Diego, California, a controversial industry analyst pronounced the dreaded word.

"We talk a lot about 'shakeout,'" said Portia Isaacson, a computer scientist and president of Future Computing of Richardson, Texas. "But the shakeout isn't happening yet."

"We're shook up but not shaken out yet," she said.

Throughout the room, there were sighs of relief. The recent filing for reorganization under bankruptcy laws by Osborne Computer Corp. sent shock waves through an industry that had been one of the few bright spots in the U.S. economy.

The early success of Osborne Computer, begun in 1981 by Adam Osborne, led many in believe that personal-computer makers could do no wrong.

At the 1981 West Coast Computer Fair, Mr. Osborne unveiled the Osborne 1. Here was a portable computer, complete with software, at the unheard-of low price of \$1,795.

A little more than two years later the Osborne company was more than \$44 million in debt and seeking the shelter of the bankruptcy courts. Despite Osborne's commanding lead, competitors that made similar portable, such as Kaypro and Compaq, began cutting into the Osborne market within a year.

A lap-size computer, Tandy Corp.'s TRS-80 Model 100, selling for less than \$1,000, was introduced this spring. For Osborne, it was the death knell.

Osborne's demise makes it clear that being an innovator is no longer enough to guarantee success in the personal computer market.

The shakeout already has happened in the home computer market with Atari and Texas Instruments experiencing recent multimillion dollar losses. But Osborne has been the first victim in the professional and business portion of the market. Other high-flyers like Victor Technologies and Fortune Systems have suffered losses recently.

An industry that was started in garages by hobbyists (Continued on Following Page)

# Guess who's setting the standard at Telecom 83?

Hagerty's  
People

## COMMUNICATIONS TECHNOLOGY

**Personal Computers: A Shakeout in the Offing?**

(Continued From Preceding Page)

has grown up. Names of tiny companies like Imsai, MITS and Exidy have been supplanted by names of multinational giants like International Business Machines Corp., American Telephone & Telegraph Co., and Xerox.

A number of factors have combined to alter the horizon for makers of desk-top personal computers, but clearly the most significant development has been the unrvaled success of IBM.

Given IBM's strength it is not inconceivable that the market could shrink from more than 100 personal computer manufacturers to five or six within two years.

The change has come since 1981, when IBM jumped into the personal-computer market. The company wisely decided to imitate Apple Computer by making the IBM Personal Computer an "open system." This meant that the computer giant actually went out of its way to encourage small and medium-size software and hardware companies to develop products for the PC.

Virtually overnight, a thriving cottage industry sprang up around the IBM Personal Computer. As a result, the PC has become the standard for the second generation of personal computers. Personal computers that use the IBM PC operating system (the operating system of a computer is a software program that handles all of the system's basic housekeeping functions) can run literally thousands of software programs from business packages to educational software and games.

These computers feature 16-bit microprocessors that allow larger, more sophisticated programs and offer higher performance than did the first generation of personal computers which were based on 8-bit microprocessors. Faster microprocessors and more memory has

meant new freedoms for software developers; they can now create programs that are more accessible to those who are not specially trained or technically skilled.

The evolution of electronic spread sheets used by business and financial planners is a good example.

Early programs like VisiCalc from VisiCorp and SuperCalc from Sorcim, were tremendously popular even though they were unwieldy and slow.

Never software products such as MultiPlan from Microsoft and 1-2-3 from Lotus Development Corp. are faster, easier to use and have extensive on-line help. Additionally, 1-2-3 has integrated the spread sheet, data base and graphics into one package.

Integration is the latest word in the industry.

In January Apple Computer Inc. introduced its state-of-the-art personal computer, Lisa, which was the product of several years of research and development and \$50 million. Lisa features a "visual" user interface that allows more than one program to be displayed on the computer's screen simultaneously in separate windows. Windows can be moved around on Lisa's display and opened and closed as the operator works on one program and documents.

To make Lisa easier to use, Apple designed it to appear somewhat like a traditional desk top. On the screen icons appear in the shape of file folders, pieces of paper, a calculator, clock — everything found in a traditional office, including a wastebasket.

To give Lisa there is a "mouse" — a handheld pointing device with a single button that rolls on a desk top. Mouse movement on the desk translates into the movement of an arrow on Lisa's screen. In order to

give the computer an instruction the mouse is pointed at a command appearing in a menu on the screen.

Lisa has fundamentally changed the way people are asked to interact with the computers. Instead of remembering command strings and typing them at the keyboard, the user simply looks at the screen and points with the mouse.

Lisa generally has been viewed as a spectacular, but expensive, personal computer. Priced at \$10,000 when it was introduced (the price has since dropped to \$8,500) Lisa has not been accepted as readily by Fortune 1000 companies as Apple had hoped.

Advertised as a "Maserati for your mind," Lisa unfortunately was introduced without software to allow it to function with the giant mainframe computers of data processing departments in large corporations.

Despite IBM's inroads into a market Apple had dominated in the past, Apple has not given up. In danger of becoming No. 2 in the personal computer business, it has hired the former president of PepsiCo's Pepsi-Cola subsidiary, John Sculley, and decided to fight the marketing war with a huge national advertising budget for a television advertising campaign. At the same time, by lowering Lisa's price, Apple has made it competitive with the IBM PC XT, a version of the IBM Personal Computer that comes equipped with a hard disk permitting storage of 10 million characters of information.

On January 18, Apple is going to remove the veil from Macintosh, a low-cost version of Lisa.

"Mac," which may be priced as low as \$1,500, is reported to be as significant as the Ford Model T automobile. It will put computing within most everybody's reach.

The idea behind Mac is to build a

personal computer that is genuinely simple enough that it can be used without documentation by inexperienced users.

Mac will be a computer the size of a shoe box with a detachable keyboard and a mouse pointing device. It will come with integrated software similar to Lisa's. This time Apple is making sure that outside developers have plenty of time to create software products that will be available on Macintosh when it is first introduced.

The stakes surrounding the introduction of Mac are high.

Mac has been the personal project of Steven P. Jobs, Apple Computer's cofounder and chairman. The existence of the company, which has grown from a garage in California's so-called Silicon Valley to a Fortune 500 company in five years, clearly rides on the new year.

Meanwhile, Apple apparently has started a stampede to the window and mouse design. A number of software companies are working furiously to provide the IBM PC with capabilities similar to those of Lisa and Mac.

Visicorp and Microsoft, two of the largest makers of personal-computer software, are scheduled to release special software within months. Both companies have gotten into the hardware business as well by offering their own mice to go with their software.

While the personal computer hardware industry has begun to resemble the automobile industry, being dominated by a few large companies, the parallel software business is increasingly looking like the book publishing business — even the record industry.

Other information utilities such as The Source, Compuserve and Newsnet, the large data bases that can be connected to personal computers over telephone lines, are offering other communications and information services ranging from interactive games to electronic news.

**NUMBER OF PERSONAL COMPUTER UNITS SOLD AND INSTALLED IN THE UNITED STATES**

(in thousands of units)\*

	1980	1981	1982	1983*
Business	152	595	1,622	
Home	330	2,336		
Science	3	120	200	
Education	157			
<b>TOTAL</b>	<b>532</b>	<b>3,053</b>	<b>3,022</b>	

\*Estimated installations.

\*\*Figures include U.S.-manufactured personal computers installed for personal use as well as U.S.-manufactured single-user processing terminals installed for private use when connected to a computer.

The bar graph represents the total number of units sold and installed from 1980 through 1982 and projections for 1983 through 1987.

Source: International Data Corporation, Boston.

**NUMBER OF PERSONAL COMPUTER UNITS SOLD AND INSTALLED IN THE UNITED STATES**

(in thousands of units)\*

	1980	1981	1982	1983*
Business	221	332	403	
Home	68	120	170	
Science	56	85	120	
Education	56	106	166	
<b>TOTAL</b>	<b>401</b>	<b>643</b>	<b>1,299</b>	

\*Estimated installations.

\*\*Figures include U.S.-manufactured personal computers installed for personal use as well as U.S.-manufactured single-user processing terminals installed for private use when connected to a computer.

The bar graph represents the total number of units sold and installed from 1980 through 1982 and projections for 1983 through 1987.

Source: International Data Corporation, Boston.

**NUMBER OF PERSONAL COMPUTER UNITS SOLD AND INSTALLED OUTSIDE THE UNITED STATES**

(in thousands of units)\*

	1980	1981	1982	1983*
Business	221	332	403	
Home	68	120	170	
Science	56	85	120	
Education	56	106	166	
<b>TOTAL</b>	<b>401</b>	<b>643</b>	<b>1,299</b>	

\*Estimated installations.

\*\*Figures include U.S.-manufactured personal computers installed for personal use as well as U.S.-manufactured single-user processing terminals installed for private use when connected to a computer.

The bar graph represents the total number of units sold and installed from 1980 through 1982 and projections for 1983 through 1987.

Source: International Data Corporation, Boston.

**Microcomputer Software: 16-Bit Success Story**

(Continued From Preceding Page)

than 20 percent of all personal computers in the U.S. market and was likely to move a half million units during 1983. In addition, other computer companies began marketing so-called "IBM-compatible" machines that were designed to operate with the same software programs as the IBM Personal Computer.

The growth rate of the emerging 16-bit IBM market did not go unnoticed by independent software developers.

"Last year, everyone was writing software for the Apple," said an industry analyst, Esther Dyson, of Rosen Research Inc. in New York. "This year, it's all for the IBM PC." By year's end, said Gerald Van Diver, who has just published a comprehensive directory of IBM PC software, there will be roughly 4,400 programs available for the IBM PC. That is still far less than the 7,800 software titles that are available for the 8-bit Apple microcomputers. But, Mr. Van Diver

pointed out that it has taken seven years for independent software companies to reach that level for the Apple. New IBM programs have been appearing at a rate of 400 a month this year.

IBM's entry into the market was an obvious attraction to software developers, but equally important was a growing demand by microcomputer owners for more sophisticated programs. Eight-bit machines are unable to work with more than 65,000 characters of data and program code in their internal memories at one time. This limitation rarely poses a problem for simple, single-purpose business programs such as word processing, spread sheets, accounting modules and file managers. But more elaborate programs, especially those that integrate several functions, consume greater amounts of memory than 8-bit machines have available.

"Because of larger memory capabilities," Mr. Morgan added, "programs can operate smarter and faster, and user friendliness" factors can be written right into the software."

Among the features that make 16-bit programs easier to use, Mr. Morgan said, are more elaborate screen displays and graphics, frequent "help" messages that provide advice at various points in the operation of the program and more flexible ways to change formats for displaying and manipulating data.

The greater memory capacity of 16-bit machines has also inspired software developers to begin writing programs that perform several functions at once, like 1-2-3. Because of the limited size of most 8-bit programs, users had to insert a software diskette to perform one function (such as mathematical analysis), then copy the results onto another diskette and load a separate program for translating numerical results into graphs or charts. If these graphs or charts were to be incorporated into a written report or a letter, a user would also have to switch to a word-processing program. Although the

computer itself could perform hundreds of thousands of calculations a second, the need to swap diskettes back and forth often led to frustration and wasted time.

Software companies have been quick to capitalize on this frustration by marketing multipurpose programs that link several commonly used functions. Lotus' 1-2-3 offers spread-sheet analysis, data management and graphics capabilities on one diskette; a rival, called Context MBA, provides these features as well as word processing and some telecommunications capabilities. A few weeks ago, a software publisher called Fox & Geller in Elmwood Park, New Jersey, unveiled a program it describes as "a true management system," an integrated data analysis and graphics package that "offers managers financial control and three-dimensional views of data previously possible only on mainframe and minicomputer systems."

Most of the new integrated programs are designed to operate on the IBM PC and its various clones, but other 16-bit machines have begun to challenge IBM's dominance in the advanced microcomputer marketplace. Apple Computer, Tandy Corporation and Digital Equipment Corporation have also launched 16-bit machines in the last year, and so have many small manufacturers that sell to specialized kinds of business and scientific customers. Apple's 16-bit Lisa computer, for example, offers a very elaborate integrated program designed to perform virtually any data management function a manager might face. Though there is less software available for these machines than there is for the IBM PC, many developers see them as able to generate respectable sales.

Sixteen-bit machines have also attracted software developers from another segment of the industry: minicomputer and mainframe software. According to Joseph Alsop, president of Data Language Corp. in Billerica, Massachusetts, "Sixteen-bit microcomputers aren't that different from low-end minicomputers in terms of the complexity of the software they can support. What we have seen in the last year are literally hundreds of software firms that used to write customized software for bigger machines, and are now going after the microcomputer market."

Mr. Alsop said that many of the software developers who learned programming on 8-bit machines "simply aren't aware of all the interesting and important things a more powerful computer can do." For example, he noted that larger

computers are able to provide complete integration of a company's accounting, inventory and sales operations and can also generate analyses of key ratios and trends for management review.

"The market that has evolved in the last year or two for this kind of program," Mr. Alsop said, "is primarily in businesses that have begun to link together microcomputers into networks or have installed supermicro systems that run conventional micro software." Another application that is ideal for 16-bit machines, he said, is "heavy number-crunching work, like material requirements planning for the microcomputer market."

Though a good many programs have reached the market that draw on minicomputer and mainframe programming techniques, Mr. Alsop said that some have a

doubt that the success available to computer users whatever be as rich as the kind of software that is essentially an upgrade 8-bit software.

"You're talking about an enormous investment in hours to write programs like this complex," said Richard Loftin, a Washington consultant, "and the author of a guide to high-technology venture capital resources."

"The software industry is to have plenty of stories about programmers who locked themselves in a motel room for six weeks and emerged with a completed software program," Mr. Loftin said. "To write a good 16-bit program, though, you'll probably end up with a team of programmers on payroll for a year or two, plus a lot of overhead and hardware. To finance this kind of development usually means someone has to come up with venture capital, and that your potential sales have to look pretty impressive."

For this reason, Mr. Loftin suggests that it will be a while before software takes the next step, to 32-bits. "Right now, there just aren't that many microcomputer applications that need more than 16-bit capacity," he said. "It may happen, but first you're going to have to have enough customers to justify the development costs."

Mr. Alsop agreed — but with reservations. "If you had told me a couple of years ago that by 1983 we'd all be cranking out 16-bit microcomputer software, I'd probably have given you a good argument about why you were wrong."

The way the software business keeps changing, I suppose it's fair to expect at least one revolution a year."



Stocks Slide as Investors Become Wary

(Continued From Preceding Page)

confront IBM directly in the marketplace and it found it too expensive. It lost \$11.1 billion in the second quarter, and another loss of \$11.1 million is expected in the third quarter. The stock is off 75 percent from its 1983 high, falling from \$22 to \$5.50.

• WICAT Systems. The latest casualty, this manufacturer of 16-bit microcomputers, lost 45 percent of its market value days after it announced an unexpected \$43-million loss in the quarter ending in October. The stock is off 63 percent from its 1983 high of \$18 per share.

• Coleco Industries. Four months after this Connecticut-based computer and toy manufac-

turer shook the industry by announcing that it would begin marketing an office-quality office and computer package for only \$600, the company has been unable to deliver. Manufacturing and engineering problems have been blamed.

DIGITAL COMPUTER UNITS  
MADE IN THE UNITED STATES

1982	1983*	1985*
1,300	1,320	1,370
11,320	11,300	11,300
473	682	942
774	942	942
<b>31,000</b>	<b>31,300</b>	<b>31,300</b>

DIGITAL COMPUTER UNITS SOLD  
MADE IN EUROPE

1982	1983*	1985*
203	302	574
52	65	125
363	382	700

DIGITAL COMPUTER UNITS SOLD  
OUTSIDE THE UNITED STATES

1982	1983*	1985*	
12	134	242	3,000
10	171	242	4,000
10	242	242	332
10	364	364	504
10	5,181	5,758	

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European Headquarters, Avenue Louise 480, 1050 Brussels, Belgium.

## COMMUNICATIONS TECHNOLOGY

## Computers Aid Science, Health Research

By Amiel Kornel

**PARIS** — Lending their intelligence to everything from the design and manufacture of dental crowns to the visualization of the infinitesimal, computers are aiding surgeons, physicians and scientists in expanding the frontiers of health care and scientific research.

The latest applications go well beyond the so-called number crunching and data storage for which digital computers have been renowned since their invention more than 30 years ago. In addition to its rapidity in performing complicated calculations, the computer has an ability to reduce, rearrange, and reconstruct information that is proving to be an invaluable asset in science and medicine.

While many areas of scientific research rely heavily on the use of computers, physicians and surgeons are just beginning to discover how the quintessential 20th-century tool can help their work.

Two dental surgeons from Grenoble, France, demonstrated a computer-based system for making dental crowns recently on French television. Using the techniques of Computer Assisted Design and Computer Assisted Manufacture, or CAD-CAM, the dentists can prepare a patient's crown in one hour during a single visit, with a precision 10 times greater than that offered by conventional methods.

The procedure looks deceptively simple. An optical probe introduced into the patient's mouth generates a contoured image of the tooth and adjacent area. The computer uses the data to reconstruct a digitalized map. A program then designs a crown based on a predetermined theoretical tooth, taking into consideration the position of the patient's teeth and form of jaw. A second program directs a sophisticated milling machine to make a crown according to the blueprint created by the design software.

The procedure looks deceptively simple. An optical probe introduced into the patient's mouth generates a contoured image of the tooth and adjacent area. The computer uses the data to reconstruct a digitalized map. A program then designs a crown based on a predetermined theoretical tooth, taking into consideration the position of the patient's teeth and form of jaw. A second program directs a sophisticated milling machine to make a crown according to the blueprint created by the design software.

Doctors at the Hospital for Special Surgery in New York are developing a similar system for the manufacture of prosthetic body joints, such as artificial knees. These systems will lower medical costs, speed up surgery and ensure better quality control of prostheses, according to their developers.

Not all medical applications are originating in hospitals or academic institutions. MediSoft, a year-old California software firm, is marketing two educational programs that may eventually evolve into clinical tools. "We use mathematical modeling systems to simulate anatomical and physiological portions of the human body," said Dr. Lamont Cummins, president of MediSoft, in a telephone interview from Santa Cruz.

One of the programs teaches physicians and nurses how to diagnose and treat heart ailments. After inducing a heart attack in a three-dimensional graphical representation of a beating heart, users prescribe the drug and therapy necessary to treat the resulting arrhythmia. "They must match the right therapy with the right diagnosis and follow the heart's response," Dr. Cummins said.

MediSoft, as well as other research groups in North America and Europe, is attempting to develop a program that will create computer models of the heart based on an analysis of electrocardiograms. Such software would permit a physician to feed a patient's electrocardiogram into a computer and get back an image of the heart, enabling the physician to quickly see its weak areas.

Another of MediSoft's programs simulates the effects of a biolaser. Surgeons use lasers to burn away human tissue and stop internal bleeding. The video simulation duplicates the effects of varying levels of radiation on different types of tissue. "It allows them to develop an intuition" for the intensity and

direction of the laser beam necessary to treat a particular tissue and ailment, according to Dr. Cummins.

He described this educational application as only the first stage in the product's development. The next stage, which he qualified as "a futuristic perception a good way from being realized," would "build in intelligence to have the laser adjust itself" during actual surgery.

In addition to flashes of insight and a good dose of luck, scientists have always relied on the empirical in their investigations. For experimentalists, the computer has helped satiate the hunger for information and digest the subsequent mass of data.

The computer's place in physics research is exemplified by the role it plays at the European Center for Nuclear Research, or CERN, in Geneva. "The typical physics experiment nowadays is attached to a computer," said Victoria Frigo, a computer specialist at CERN.

Scientists at CERN use between 200 and 250 computers to do the computation on, and analysis of, the avalanche of data their experiments produce. The machines extend in size from micro-computers located on scientists' desks to larger computers grouped in a computer center. "An experiment can sometimes generate more data than even a computer center can handle," said Mr. Frigo.

But the computer's utility is not limited to the experimentalist. It has provided theoreticians with a means to build and test models in minutes or hours that would once have taken months or even years to elaborate and verify. "You can do things that you wouldn't do by hand," said Mr. Frigo.

Its ability to logically manipulate symbols as well as numbers enables the computer to handle the complex algebraic equations that are part of model-building and testing in most branches of physics. The

full mathematical implications of some equations, even though those equations may be essential parts of physics' theoretical backbone, are sometimes too complicated to be tested manually. The computer has extended the domain of the verifiable.

For example, a 19th-century French astronomer, Charles De Launay, took 20 years to define and check a set of algebraic equations that describe the position of the moon as a function of time. In 1970, a computer performed the operation in 20 hours. Today, due to advances in computer technology, the time could be even further reduced.

The computer has also extended the domain of the observable. Digitized image processing and enhancement is offering a more precise and clearer view of phenomena that have long been at the limit of, or even beyond, the scientist's investigative reach. At CERN, for example, computers have recently begun to aid physicists in reconstructing holographic images of the trajectories of elementary particles, the stuff of nuclear research.

Physicists in search of a specific particle use the machine to sift through the millions of sub-atomic events generated by collisions in CERN's giant accelerator. The computer then reconstructs a two-dimensional digitized image of the trajectories, from which it generates a three-dimensional holograph. Scientists can even electronically assign colors to specific trajectories in order to aid in the detection and analysis of certain particles.

Computer-based image enhancement similarly assists geologists and astronomers to analyze the photos of the Earth and other heavenly bodies sent back by satellites. Such images are used to identify the distribution of the Earth's natural resources, for example.

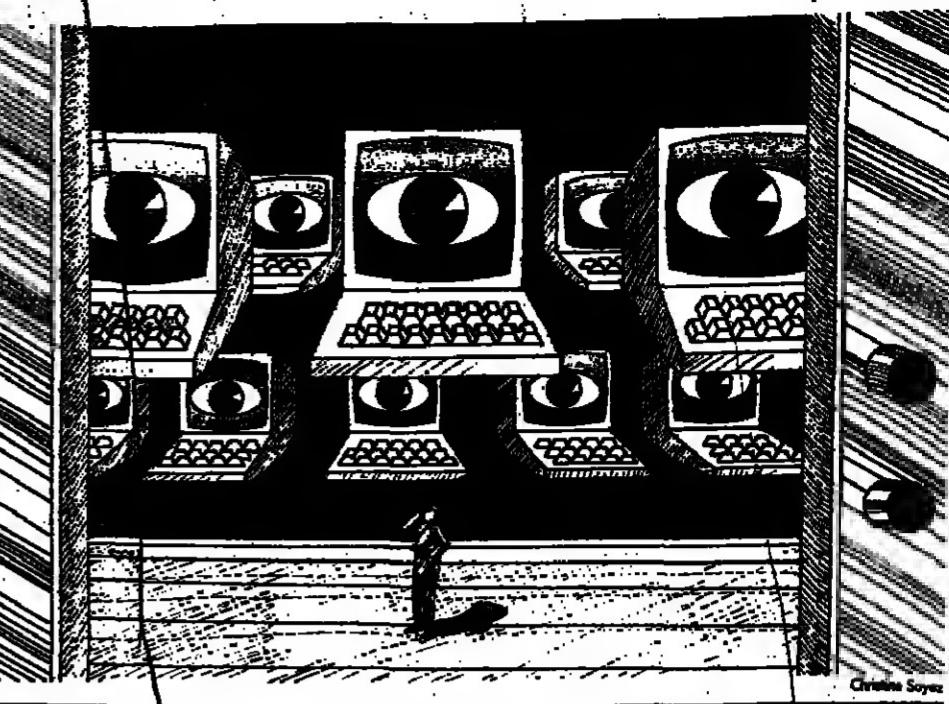
In medicine the process is em-

ployed to improve the diagnostic information offered by X-rays and other, newer, imaging techniques such as nuclear magnetic resonance and ultrasonic radiography. Since 1973 the Computerized Axial Tomographic, or CAT, scanner has been providing doctors with views of cross-sectional slices of the human body assembled from thousands of X-rays.

Scientists also use computers to monitor and adjust experimental conditions and apparatus. Computers' sensitivity, precision, flexibility and unfocused attention span make them suited for the supervisory role. The IBM Israel Scientific Center and the Desert Research Institute of Ben Gurion University at Sde-Boker are collaborating on a project that uses a computer to control a greenhouse environment near Beersheba at the edge of the Negev Desert. The computer collects data from instruments that measure conditions such as temperature, humidity and the sun's radiation. According to a mathematical model with which it has been pre-programmed, the computer then attempts to ensure the economical operation of the sealed and rotatable greenhouse.

As the Israeli scientists test and revise their models, they should be able to discover the optimal growing conditions for various plants. Their findings could prove critical to the future success of desert agriculture. Scientific applications for computers will pass a new frontier later this year with the launch of Spacelab aboard the United States space shuttle Spacelab, designed by the European Space Agency in coordination with NASA, will be a self-contained, computer-controlled, multidisciplinary, orbiting laboratory.

Two on-board computers will manage experiments conducted by crew members in life sciences, astronomy, earth observation, and solar physics, to name but a few. In



Courtesy Soys

## Computing Instant Self-Acceptance?

*The Associated Press*

LANSING, Michigan — Do you need a little reassurance? Do you want to feel that you are healthy, lovable, attractive or just plain OK? Now there is a psycho-soothin computer program that offers this kind of help for the overweight and underconfident.

Subliminal messages are available through Expando-Vision, the first product of Stimutech Inc., which is marketing the product using the slogan "Straight to the Mind's Eye."

The messages flash at on-thirtieth of a second on a television screen counted to a home computer. That is faster than the eye can consciously catch them, but they are perceptible to the subconscious.

"I like my body," "I exercise," "My body is healthy," they tell people who want to lose weight. "I'm OK."

For boosting sexual confidence, there is "I see me lovable," "I see me desirable," "I'm attractive" and "I'm OK."

"They are all positive and you have to subconsciously want to respond," said Dr. Wallace Bemke, an Ann Arbor psychiatrist, professor of educational psychology at Eastern Michigan University and chairman of a board of scientists that developed the Expando-Vision messages.

"Very few people question whether it works," said Michael Erb, Stimutech vice president for marketing. "The two questions we receive most are, 'Is it legal?' and 'When can I get one?'

Because the messages are not broadcast but rather are supplied by a \$39.95 cartridge through an \$89.95 device plugged in between a home computer keyboard and a television, Expando-Vision does not violate Federal Communications Commission regulations banning subliminal messages, Mr. Erb said. The device will be available by mail order starting Oct. 17. Seventy-five Michigan residents have been testing it.

"There are an awful lot of people out there who want to change their behavior in some way," he added. "With no advertising yet except word of mouth, already we have more than 100 check-in orders. We've had people tell us they went out and bought a microcomputer just so they can use the product."

One of the testers is Karen Pawlowski, an analyst for the state's Department of Management and Budget.

"I work in government so I never say anything is absolute," Ms. Pawlowski said. "But I believe the concept is excellent. There's high potential gain and low risk, so I said, 'Go for it.' I think they're nice messages... particularly, 'I'm OK.'"

## Compact Computers: One in Every Briefcase?

By Ronald Eric Winter

PAUS — The computer industry is poised for the arrival of the latest compact model, the Gavilan, which may help could set new standards for portable computers.

What the Gavilan, manufactured by Avion Computer Corporation, Campbell, California, goes on sale in December in the United States, it will be the most powerful portable computer of its size on the market. Its design also will enable users to add a large memory to the system. The Gavilan will go on to Europe in early 1984.

The industry generally classifies mobile computers in three categories based on size and computing power:

- Hand-held computers, in essence calculators capable of complex mathematics. Powered by batteries, they are about 7x3 inches in size, have a calculator-style keyboard and can display one to four lines of text on a Liquid Crystal Display. Power is provided by internal batteries. Their memories can approach 512 kilobytes. They have programs for storing addresses and appointments, storing and editing up to 40 pages of text and performing the same mathematical calculations as hand-held computers.
- Portables, which are more functional than hand-held computers and more mobile than desk-top computers. They are small enough to fit in a briefcase, have a full-size typewriter-style keyboard and can display four to eight lines of type on a Liquid Crystal Display. Power is provided by internal batteries. Their memories can approach 512 kilobytes. They have programs for storing addresses and appointments, storing and editing up to 40 pages of text and performing the same mathematical calculations as hand-held computers.
- Transportable computers, which have small television-style screens and full-size typewriter-style keyboards and weigh about 18 pounds (8 kilograms). These computers perform the functions of any medium-size office computer. They are powered by electricity and are generally too cumbersome for use on a train or airplane. However, transportables have specially designed packages that allow them to be taken easily from one location to another.

The computer as first shown in May at the National Computer Conference in California, Europeans saw it this month in Paris at the Salon International d'Informatique, Télematique, Communication Organisation de l'Eau et d'Énergie. At both events, the Gavilan drew praise that could make IBM shudder with envy.

At 11.4 inches square (29 millimeters) and 3 inches thick, it is slightly larger than portable computers manufactured by Andy Corp. and Epson, currently the smallest and most popular. Nevertheless, within the country, the Gavilan is considered a breakthrough; it is the smallest portable computer to add a large memory to the system. The Gavilan will go on to Europe in early 1984.

We continue state-of-the-art software with sophisticated hardware such as micro floppy disk with the last memory," said George Modis, product manager of Gavilan. "Anticipate keeping up with the growth and technological changes in a market."

Mr. Modis said the Gavilan is expected to appeal to "the class of mobile professionals; the individuals

who work on the road and travel a lot."

According to a study by Arthur D. Little, by 1989 Taiwan can expect to claim 2 percent of the \$230-billion world market for computers, peripherals and software.



Courtesy Gavilan's portable computer with integrated touch panel for quick learning.

namely by Taiwan, the high-technology sector currently accounts for only a small portion. But it is the fastest growing. In the first six months of this year, exports of computer-related products reached \$36 million, compared with \$25.5 million in the corresponding period of the year before. The United States is the principal export market.

Production of telecommunications equipment and its components is expected to receive a boost from a recently announced \$40-million joint venture between American Telephone & Telegraph Co. and Taiwan's Directorate General of Telecommunications to produce digital switching equipment for both the local market and export. AT&T has also agreed to provide technology transfer through its Bell Laboratories.

Of the more than \$3.5 billion worth of electronics exported an-

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Production

# The Future

The future of telecommunications rides on the promise of digital technology.

For the past century, virtually all communications—voice, data, graphics, image—was based on analog technology. The transmission and routing of all information was done in the form of electrical waves in varying amplitude and frequency.

In the 1960s, the introduction of computers to telecommunications networks increased the efficiency, flexibility, and capability of communications systems. But this was only an indication of the coming revolution.

Northern Telecom set off the revolution with an announcement in 1976. Applying its expertise in the key technologies of microelectronics and software, Northern Telecom became the first corporation to commit

to the introduction of a complete family of fully digital switching and transmission telecommunications systems.

That commitment brought about the effective merger of the telecommunications and computer industries. Since then, every major telecommunications manufacturer in the world has followed Northern Telecom's announcement with their own. And, today, they continue to follow Northern Telecom's lead.

Northern Telecom's worldwide digital leadership is based on its commitment to research and development. The corporation annually spends more than nine percent of its revenues on R&D and has invested more than one billion dollars in R&D over the past decade.

Northern Telecom promised that our future would be a Digital World\*. In fact...

# and The Present.

**N**orthern Telecom is delivering the future today with the broadest and most proven line of **fully digital systems** of any company in the world. Since the introduction of its first fully digital switch in 1975, organizations in 50 countries have put in service or ordered thousands of Northern Telecom's DMS or SL systems to serve the equivalent of more than 14 million telephone lines. No other company can match this record of global success and experience as a developer, manufacturer, and supplier of fully digital telecommunications systems.

Northern Telecom's customers include all major telephone companies across North America, including Bell Canada, AT&T and its operating companies, the specialized common carriers, the U.S. military, the health and hospitality industries, educational institutions, governments at all levels, banks and other financial organizations, businesses large and small, and government PTTs in Europe, the Middle East, Africa, Asia, the Caribbean, and Latin America.

Technology does not stand still. Northern Telecom is extending its leadership in digital telecommunications by developing new integrated circuits and software to evolve and enrich our proven systems. And we keep expanding our product families to serve our customers.

The modularity of our hardware and software enables us to evolve the capabilities of our systems. We avoid the potential of rapid obsolescence that has caused other companies to speak of their product "generations". We protect our customers' investments by evolving their systems with the progress of technology. By this, we set new performance standards as targets for our competitors to strive for.

These are the digital telecommunications products of tomorrow, available from Northern Telecom today:

#### DMS\*

Central office switches route telephone calls within the network. Northern Telecom's DMS (Digital Multiplex Systems) Family comprises switches that can economically handle from a few dozen lines in a rural area to the sophisticated, high-capacity systems needed for as many as 100,000 telephone lines in cities.

The flexible design, dispersed processing, and remote modules that can be located away from the central switch, make it easy to expand an installed DMS switch as new capacity or features are required.

The first of Northern Telecom's computer-controlled, fully digital DMS switches were introduced in 1977. That's seven years of experience in developing, evolving, producing, installing, and servicing these sophisticated, compact, reliable, and cost-effective systems.

#### DMS-1

The Digital Multiplex Systems most widely used by telephone companies in rural areas. DMS-1 can serve up to 256 lines over just four pairs of wires. There are currently 2,000 DMS-1s in operation to provide thousands of telephone subscribers with economic, improved service. The DMS-1A, and a new system called the DMS-1 Urban, can handle 512 and 544 telephone lines, respectively.

#### DMS-10

DMS-10 can handle the needs of smaller communities requiring service for up to 8,000 telephone lines. The DMS-10M is a specially designed, compact version housed in a mobile cabinet on wheels. The packaged design virtually eliminates the need for engineering by telephone companies, permitting rapid and unassisted installation. DMS-10 also features Remote Equipment Modules to extend economically the capabilities of the central switch to surrounding areas.

More than 700 DMS-10s are in-service, including some 140 switches for 20 of AT&T's operating companies, and hundreds of other telephone companies across the U.S. and Canada, and in several other countries.

\*Trademark of Northern Telecom Limited

#### The DMS-100 Family

The flexibility of Northern Telecom's modular hardware and software architectures has enabled the corporation to modify its large digital switches to serve all the different roles in the telecommunications network, and to meet the special requirements of particular customer groups, new markets, or countries.

For example, Northern Telecom has licensed its DMS-100 Family technology to two Austrian manufacturers to develop switching systems for that country. The corporation also licensed this technology to a Turkish manufacturer to produce DMS switches for Turkey's PTT. Northern Telecom has developed special features required by the U.S. military, the specialized and resale common carrier industry, and for cellular mobile radio-telephone system operators. There are now some 550 DMS-100 Family switches in-service or on order.

Reflecting the quality, reliability, and availability of Northern Telecom's DMS, AT&T's telephone operating companies have become major customers for these systems. AT&T has recommended the DMS-1, DMS-10, DMS-100, DMS-200, and DMS-100/200 for use and has signed supply contracts with Northern Telecom. These contracts will be transferred to the operating companies when they are divested in 1984.

The DMS-100 Family of switches, when first introduced in 1979, offered about 300 features. Today, as new capabilities and members of the family have been added, the list of features is more than 1,000. And the total continues to grow while other manufacturers are still introducing their basic systems.

DMS-100 can meet the needs of larger communities and cities needing a big switch for local calling. DMS-100 can serve up to 100,000 telephone lines and, with its Remote Line Modules, can economically provide service to smaller communities in surrounding locations.

DMS-200 is a toll switch that can handle 60,000 trunks (long-distance) circuits.

DMS-100/200 is a large switch combining local and toll capabilities.

**DMS-100 Scope Dial** was developed to meet the special needs of the U.S. Air Force which chose Northern Telecom's switching for its Scope Dial program to modernize telecommunications on its bases around the world. DMS-100's very-large capacity, proven reliability, advanced digital switching architecture, and potential for significantly reducing telecommunications costs, meets the rigorous requirements of the U.S. military's upgraded Automatic Voice Network (Autovon) and the global military network for telephone service.

DMS-100 Scope Dial switches are now installed at the Vandenberg base in California; Osan, Korea; Wright Patterson, Ohio; Eielson, Alaska; Hill, Utah; and four more are on order or are being installed.

**DMS-200 Autovon** is a special configuration of Northern Telecom's toll switch to meet the demands of the U.S. Department of Defense, military departments, and other users in the Autovon military global communications network. Five DMS-200 Autovons have been installed in the U.S.

**DMS-250** was developed for specialized and resale common carrier companies in the U.S. such as Satellite Business Systems and MCI Communications. It enables these companies to benefit from, and to offer their customers the benefits of, the Digital World.

**DMS-300** is an example of Northern Telecom's experience in designing systems for international telecommunications. This large gateway switching system connects a country's telephone networks to the international telecommunications grid. DMS-300 is currently being used by Teleglobe Canada.

**DMS MTX** is the newest member of Northern Telecom's DMS Family. The DMS MTX (Mobile Telephone Exchange), introduced in 1983, is a part of the cellular mobile radio-telephone system being offered by Northern Telecom working with the General Electric Company in the U.S. As an example of the flexibility of DMS, customers who have already installed DMS-100, DMS-200, or SL-100 (large PBX) switches can add the cellular mobile radio-telephone capabilities to their existing systems.

**TOPS\*** (Traffic Operator Position System) is a fully integrated, automated system for telephone operators that provides them with privacy, comfort, and ease of operation, and offers the telephone company considerable efficiencies and cost savings.

**MAP\*** (Maintenance and Administration Position) is a unique capability offered as an integral part of the DMS-100 Family, comprising an intelligent terminal for use in communicating with the switch to analyze and diagnose its performance. MAP can examine the system from an entire frame to a portion of a telephone line card.

#### SL\* Family

Northern Telecom's SL Family of digital business communications systems can meet the needs of organizations for 30 to 30,000 telephone lines. The corporation was the first to introduce integrated voice and data handling capability and has become the leading international supplier of digital PBXs and data packet switching systems.

The SL Family will serve as network controllers for voice, data, and other forms of information in Northern Telecom's OPEN (Open Protocol Enhanced Networks) World\*, a program announced in late 1982 to provide new digital systems, features, and terminals for efficient information management systems. OPEN World will enable Northern Telecom's switching systems to

connect the corporation's digital networks and terminals with networks and devices produced by other vendors, giving organizations the freedom to choose diverse systems that will most effectively meet their requirements for information handling.

#### SL-1

Northern Telecom's SL-1 PBXs can handle integrated voice and data requirements for small organizations needing as few as 30 telephone lines, to large businesses with up to 5,000 lines. The corporation is investing tens of millions of dollars annually to evolve and enhance the technology and capabilities of SL-1.

SL-1s are on order or in-service to handle 2.6 million telephone lines in 45 countries. Manufacturers in the United Kingdom, Sweden, Italy, and Korea have received licenses to manufacture and market SL-1.

#### SL-100

Larger organizations can benefit from Northern Telecom's advanced digital business communications systems technology by installing an SL-100. SL-100 can serve up to 30,000 telephone lines, making it the largest digital PBX available today. This PBX is based on Northern Telecom's proven DMS-100 system.

#### ESN

Northern Telecom's Electronic Switched Network (ESN), using SL-1 or SL-100, can link these PBXs and those of other manufacturers in sophisticated, cost-effective networks of 2 to 10 locations across the street or across a continent.

ESN's Communications Management Center (CMC) provides management with centralized control of its telecommunications network. CMC constantly records and analyzes telephone traffic, permitting changes to be made to the network as required. CMC's management features include user-billing and network-directory capability.

Other features, such as least-cost routing, can substantially reduce network costs by automatically finding the least expensive route for every call.

#### SL-10

The SL-10 bundles data in packets and digitally addresses and transmits the information at high speed with other users' data also bundled in packets. For most users, the elimination of the need for dedicated lines and charges only for transmission time used, can mean substantial savings.

SL-10 supports communications interfaces and protocols from many computer systems so that different machines in the network can communicate with one another. SL-10 networks are designed to grow as the need for data connections and traffic accelerate.

SL-10 forms the backbone of the Canadian Datapac and West German Datex-P networks. In the U.S., the Federal Reserve System uses an SL-10 network to handle funds transfers of more than \$10 trillion per year. Other SL-10 users in the U.S. are Bankers Trust Company and Contel Network Inc. Internationally, SL-10s have been chosen for installations in the U.K., Hong Kong, Switzerland, Portugal, the Republic of Ireland, Belgium, and Austria.

#### Transmission Systems

Digital transmission systems are the threads which bind the Digital World. Transmission systems carry information between points. Voice or data is carried from the home, factory, or office, or between central office switches by copper wire, coaxial cable, radio, and glass fibers to the telephone company or private network switches, and routed to the caller's destination.

Increasingly, optoelectronic systems incorporating fiber optics and laser technology are being used to transmit simulta-

neous digital voice and data signals through the global telecommunications networks.

#### DE-4E

Channel banks facilitate a cost-effective and efficient transition to the Digital World. Front-end devices converting analog signals to digital and vice-versa, make digital systems and products compatible with older generations of analog equipment.

Northern Telecom is the second largest manufacturer of channel banks in the world and the DE-4E is one of the most proven and reliable digital products available today.

#### PLC-1

Northern Telecom's Private Line Concentrator provides businesses and other organizations with the means to reduce dramatically the number of leased lines required in their voice communications networks, cutting line costs by as much as 50 percent. PLC-1 also provides network usage data for improved management of the network.

#### T1 Mini

A T1 Mini amplifies and regenerates voice and data signals as they are carried through the transmission systems. With its 24-channel capacity, the T1 Mini repeater is designed to meet AT&T specifications.

#### TIC

The T1 Mini's brother, the TIC has all the features of the smaller system with twice the capacity.

#### Digital Radio

Digital signals for voice, data, and video can be transmitted through the air. Northern Telecom's expanding family of digital radios currently includes 4ghz and 8ghz systems.

#### Optoelectronics

Northern Telecom has been developing and installing fiber optics systems since the early 1970s and continues to lead in advancing optoelectronic technology. We have supplied over 150 fiber optic transmission systems, the equivalent of more than 62,000 miles of fiber. Lightwave communication through glass fibers is practical and economical for voice, data, and video applications.

The successful application of fiber optics systems to digital telecommunications means longer transmission ranges of up to 30 miles without amplification by repeaters. Fewer repeaters means less field electronics, higher reliability and lower installation and maintenance costs. Glass fiber is smaller and lighter than conventional cable systems and is free from electromagnetic interference.

Northern Telecom offers complete optical fiber transmission systems, including single-mode and multimode fiber and compatible components and systems' designs custom-tailored to meet present and future customer requirements. In Saskatchewan, Canada, for example, Northern Telecom is working with Saskatchewan Telecommunications, the province's telephone company, to produce and install a 2,000-mile fiber optics network. This digital system is the longest fiber optics network being put in service, in the world. It will provide integrated voice, data, and video (cable television) services to customers over 100,000-square-miles.

For more information on Northern Telecom and its products contact: Northern Telecom (U.K.) Ltd, Langton House, Market St, Maidenhead, Berks, SL6 8BE Tel: (028) 72921.

**nt** northern telecom



## COMMUNICATIONS TECHNOLOGY

**IBM: New Aggressiveness Is Working**

By David Moschella

FRAMINGHAM, Massachusetts—International Business Machines Corp. has been the undisputed leader of the worldwide computer industry for more than 20 years. Yet, despite the fact that as recently as three years ago IBM's data-processing revenues were greater than its 15 largest competitors combined, observers were seriously questioning the company's long-term prospects.

Weighed down throughout the 1970s by public and private antitrust suits, IBM was slow to take advantage of major new opportunities in minicomputers, word processing and computer services. While companies such as Digital Equipment Corp., Wang Laboratories Inc., Automatic Data Processing and Apple Computer Inc. prospered, IBM's share of the overall market steadily fell.

Today, there are days when it seems like IBM is the only thing that stands between U.S. technological leadership and a Japanese takeover of the worldwide computer industry. IBM's technology has become first rate, its manufacturing prowess unmatched and its growth and earnings are the envy of the industry. IBM still controls about 30 percent of the \$100-billion worldwide computer business, a share that has stabilized and that in 1982 rose slightly.

The company does not hide its new aggressiveness. It will pursue any and all markets, and it plans to take full advantage of the many opportunities of the upcoming information age. Telecommunications, videotext, robots and consumer products are just the most visible signs of what is clearly a "new IBM."

The roots of the turnaround date back to 1978, when IBM embarked upon an aggressive five-year buildup, during which about \$11 billion was spent on research and development and \$15 billion was invested in new production facilities. The purpose of this unprecedented expansion was to prepare for the merging of data processing, office automation and communication services and the necessary production of low-cost, high-volume products to be distributed on a worldwide basis.

This policy has clearly begun to pay off. From \$4-million mainframes to \$3,000 Personal Computers, IBM is flooding the market with aggressively priced hardware. Last week the company introduced two advanced versions of its Personal Computer, the 3270-PC and the XT-370. It also presented the

1982 Worldwide Mainframe Computer Shipments

Company	Share (%)
IBM	48.5%
UNISYS	14.5%
NCR	10.5%
OTHERS	26.5%

1982 Worldwide Computer Shipments

Company	Share (%)
IBM	30.5%
UNISYS	20.5%
NCR	18.5%
OTHERS	30.5%

Source: International Data Corporation

markets it currently serves. New ventures are a must, and although areas such as robotics, artificial intelligence and videotext systems will some day become major markets for IBM, for the rest of this decade telecommunications, personal computers and office automation represent the most attractive opportunities.

Telecommunications services are becoming increasingly computerized. Yet, IBM's share of the roughly \$200-billion worldwide telecommunications business is virtually zero. But as computer and communication services steadily overlap, IBM will increasingly compete with the likes of AT&T in the United States, Nippon Telephone and Telegraph in Japan and their counterparts in Europe.

This competition has already begun. In the United States, IBM has a majority stake in Satellite Business Systems (SBS), which provides sophisticated voice, data and video transmission services to large businesses. SBS has recently begun to offer residential long-distance voice services as well. About 18 months ago, IBM re-entered the U.S. computer-services business by establishing its Information Network to provide remote data-processing and transmission services.

In June, IBM bought a 15-percent stake in Rola, the leading U.S. manufacturer of private branch exchanges, known as PBXs. In addition, the company introduced software that allows letters and other documents to be exchanged through the 8100, 5520 and Displaywriter office systems.

To keep in touch with rapidly changing markets, the company has reorganized itself, creating independent business units free of the miles of corporate red tape that had plagued decision-making in the past. With its lean, fast-moving image, IBM once again is seen as a growth stock.

But from IBM's perspective, the challenges of the next five years are at least as great as those of the past. It is generally believed that IBM's internal business plan calls for it to become a \$100-billion company by 1990, implying an annual growth rate of 14 percent. To put that growth in perspective, consider that to reach its goals, IBM must triple its sales in a market where prices are falling. In effect, two new companies the size of 1982's \$34-billion IBM must be built in just eight years. It took 71 years to produce the IBM that exists today.

IBM cannot meet its growth targets by merely growing with the

will be approximately one computer workstation for each U.S. white-collar worker. By then the data communications market will have exploded.

For about 18 months, IBM went from nowhere to become the leading supplier of personal computers, and it is now the target of most independent application software and disk and printer development. IBM admits that it was stunned by the success of its own Personal Computer, but its chief scientist, Louis Branscomb, said that the "future is centered on powerful work stations."

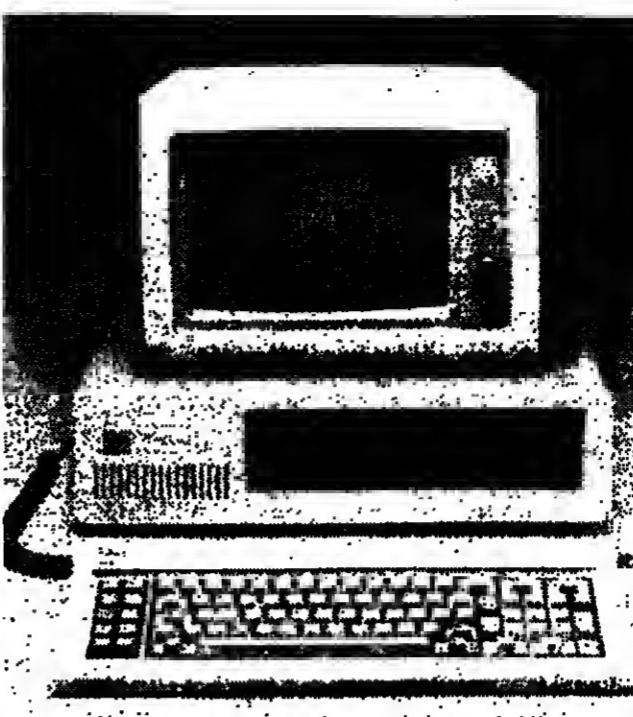
Although primarily it serves the business market today, IBM expects to sell similar personal machines to the home. Best estimates are that IBM will build about 700,000 Personal Computers this year. Production will increase significantly in 1984, as a new factory in Scotland gets into full-scale production.

IBM realizes that given the rapid diversification of the information-processing industry, even a company of its size cannot be all things to all people. In January, 1982, the U.S. government dropped its 13-year antitrust suit against IBM, saying it was "without merit." Since then IBM has aggressively and carefully built ties with major firms around the world.

In the United States, in addition to the Rola interest, IBM has bought a 12-percent stake in Intel, a leading semiconductor firm that manufactures the microprocessors in IBM's Personal Computer and Displaywriter word processor. It also set up IBM Credit Corp. and has an equipment-financing venture with Merrill Lynch. Industry observers expect more moves along these lines.

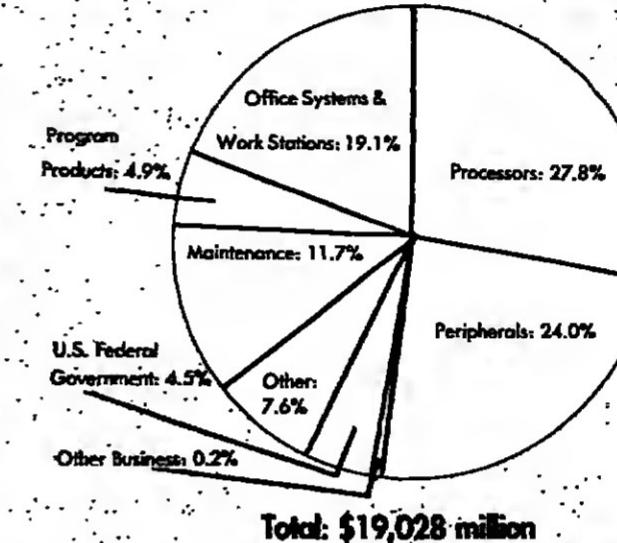
Internationally, IBM has been even more aggressive. The company has made major agreements with Matsushita, Mitsubishi and NTT, as well as with smaller firms. IBM's expanded use of outside suppliers is best shown by its personal computer, where the only thing IBM actually builds is the keyboard; the other components come from U.S. and Japanese suppliers. IBM's Personal Computer manufacturing efforts are primarily concerned with testing and assembly.

Personal computers are one of the key forces behind the widespread interest in telecommunications. As computing devices proliferate, the demand for communications increases sharply since information gets shared and services such as electronic mail become more feasible. By 1990, International Data estimates that there



IBM's Personal Computer.

IBM 1982 U.S. Revenues By Product Category



Total: \$19,028 million

Source: IBM 1982 Annual Report

trust suit, IBM's lawyers have suddenly taken the offensive.

In June 1982, IBM accused both Hitachi and Mitsubishi of industrial espionage, a charge to which Hitachi has already pleaded guilty. IBM has also sued NCR Comtron, maker of IBM compatible communications processors, and Cybernet, a manufacturer of advanced magnetic storage components. For almost 10 years, the European

Commission has been mulling antitrust charges similar to those already dismissed in the United States, and it appears that IBM will get through this final challenge equally unscathed.

*The writer is a research analyst at International Data Corporation, a Boston-based market research and consulting firm in the information processing industry.*

**Software Makers Act to Curb Piracy**

SANTA MONICA, California

—Like many other executives in California's Silicon Valley near San Francisco, the heart of the state's computer industry, Joe Lovelace has written more than a few commercially successful computer games for the software trade. As the marketing vice president of Synapse, a software manufacturer, he has reviewed scores of software programs.

Still, when an acquaintance recently offered him a bootleg version of a popular computer game, Mr. Lovelace was taken aback. The product was one that he had written just a few months before.

"I've been asked on a couple of occasions if I'd like a copy of my own game," Mr. Lovelace lamented. "There are some user groups that openly trade and give out for free software designed for sale in which there is still a proprietary interest."

His problem is not unique. The billion-dollar software industry is under attack by sophisticated bootleggers or pirates who easily duplicate popular and expensive program packages. They obtain the material through computer user associations, software rental stores and "electronic billboards" that spring up among groups of computer buffs quickly and which can transfer software over the telephone.

The dollar loss probably runs into the tens of millions annually although precise figures aren't available. While many in the industry may differ on the extent of the problem, all sides agree it is growing worse and is nearly impossible to stamp out. Much of the piracy is being committed by individuals who borrow a program from a friend and quickly and easily duplicate it on a cassette or a diskette for their own use. In that respect they resemble people who tape a record album from the radio for their personal use.

However, increasingly groups of pirates are making several copies of more expensive programs and retailing them for prices well below those found even in discount software shops.

"It's akin to the problem of shoplifting," says Chris Morgan, vice president of communications for Lotus Development Co., manufacturers of 1-2-3, the most popular business program in the United States for personal computers. "We take it very seriously. But just like no store can totally eliminate shop-

(Continued on Following Page)



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**NEC**  
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Tokyo, Japan

## COMMUNICATIONS TECHNOLOGY

## Industry Takes Steps to Curb Piracy of Products and Ideas

(Continued From Preceding Page)

ed print, the program will not run on a computer without it. Finally, it is cheap. Estimates are that it will add only one dollar to the cost of a software package. (Most recreational software, the prime targets of the pirates, costs between \$25 and \$50.)

Vault received a big boost in early October when a major software producer, Ashton-Tate, purchased approximately 20 percent of the company. Krag Broby, the firm's president, says Ashton-Tate's involvement with Vault will not hinder availability to other software manufacturers.

He also plans to produce a series of more specialized products based on the Prolok system. "We're planning items like a disk for data file security and a demonstration disk so that software people could send out copies for manufacturers to look at and they couldn't be duplicated. We see ourselves as being in

the communications security business," he said.

Manufacturers also are exploring potential legislative remedies to help control the software problem.

In this they appear to be taking their cue from the recording and videocassette industries, both of which have been battered by illegal duplicating and have pressed Congress, so far with minimal success, for relief. One proposed remedy, for example, gave the copyrighted owner of a record the power to license rentals. But the issue is more complex for software because it still is unclear from a legal perspective if software enjoys copyright protection.

"A software protection proposal has been worked on for some time and it is still under review," said Mr. Wormser of ADAPSO. It probably will not be introduced in the immediate future.

While the software piracy problem and most of the proposed solutions appear centered at present in the United States, many executives believe the industry will turn its attention to Europe soon.

"The problem is even more widespread overseas because American software companies have not done a good job in educating Europeans to the fact that copying software is not legal," said Mr. Magnuson.

Mr. Loveless from Syapse added, "We sell in both Germany and England, and Germany is one of the most sophisticated from a piracy standpoint."

From a percentage standpoint the piracy problem there is probably worse than it is over here."

All agree the bootleg industry is growing.

"It spreads like wild fire," added Mr. Loveless. "Once a copy of a new program is made, other copies are duplicated from it very quickly."

He pointed to one recreational program, a software package entitled Shamus, as an example. Syapse has sold more than 60,000 copies of the game at approximately \$35 each. Based on calls for support by users, he estimated 200,000 illegal copies are in circulation.

(Other manufacturers also contend there are between three and four bootleg versions of other popular software for every one produced in circulation.) The estimated dollar loss from just one of the 30 entertainment programs produced by this one medium-size software firm is \$7 million.

— AL SENIA

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A Thomson-CSF portable computer terminal uses liquid crystal.

## Investors Are Skittish; Stocks Slide

(Continued From Page 10)

which manufactures electronics for IBM's popular Personal Computer, and Tandon Corp., a leading manufacturer of disk drives used in the manufacturing of home computers, which recently secured a \$310-million contract, reportedly with IBM.

Still, there have been a few consistent computer stocks. High among the recommended buys of nearly every Wall Street investment adviser is IBM. Seemingly untouched by the growing price war, IBM is trading near its year's high of \$134. The Armonk, New York,

manufacturer of office computer technology, continues to step up production of its personal computer but is unable to meet demand. It also has on line a lower-priced home version of the personal version nicknamed the Peanut, which will retail at about \$1,000.

"IBM has a product in every inch of the computer market," Mr. DeVoe said. "Almost everybody in the computer business will have to go ahead with IBM regardless of what they are selling."

After IBM, the company least affected by the current industry volatility is Commodore, even

though the stock is trading at \$44 a share, compared with its year's high of 60%, analysts said. Commodore, the leader of home computers selling for less than \$500, had sales gains of 113 percent in 1983 and an after-tax profit increase of 93 percent.

Finally, there is Tandy Corp., maker of the popular TRS-80 personal computer. A strongly recommended company, Tandy not only sells its own computers but also sells its competitors' products in the 8,000 Radio Shack stores that it owns. The stock is selling at 14.4 times earnings.

**Prediction for Compact Computers: One in Every Briefcase**

(Continued From Page 12)

for a variety of purposes. Users can send and receive mail and even receive the latest stock market quotes through their computer.

News companies in the United States and Canada have started buying portable computers for their reporters to use as electronic typewriters. Writers benefit from the small size and the fact that many of them, such as those produced by Tandy, Olivetti, Epson

and NEC, run on batteries as well as electricity. The main advantage, however, is that portables can be coupled to a telephone to transmit information to another computer at a rate of 300 words a minute compared with 66 words a minute for a teletype.

The Associated Press recently bought about 100 of the Tandy TRS-80 Model 100. The Washington Post has bought 25 of them and is planning to buy more. Don Till, director of communications at The Washington Post, said, "Any reporter who travels could benefit from it."

Texas Instruments 76s and recently bought six Tandy TRS-80 Model 100s. Howard Angione, technology editor of The Times, said, "We are going slowly on purchasing these."

The Wall Street Journal uses Portabubble 81 portable terminals, manufactured by Teleram, and is buying the Tandy TRS-80 Model 100, which is smaller, lighter and fits in a briefcase. The New York Times has 83 Portabubble 81s, two

## Phone, Computer Grow More Alike

By Paul Taylor

AUSTIN, Texas — Any computer company that owns a chain of retail outlets that cling to their relatively low-tech name of Radio Shack has clearly cast its lot with mass consumer products.

So it is hardly surprising that Tandy Corp., which led the way in popularizing low-cost personal computers, is trying to do the same for a range of new products that marry the merging technologies of the computer and the telephone.

This spring Tandy introduced a \$799 portable computer that is small enough to use on an airplane seatback tray and versatile enough to plug into a standard telephone jack — and then go ahead and dial a preprogrammed number on its own.

It has also begun selling a low-cost (\$39) pocket pager that beeps phone messages. It is also offering a variety of telephone enhancements designed to bring the features one associates with office phones — such as call holding and call forwarding — into the home.

"I'm not sure we won't see the day too many years from now when it is going to be hard to tell your telephone from your computer," said John V. Roach, chairman and chief executive officer of the Fort Worth, Texas-based company.

To do its part to speed the arrival of that day, Tandy on Nov. 1 will open 25 new telephone centers around the United States that will offer the latest in computerized communications gadgetry to a market of home consumers and small businesses.

"Our telephone business has been growing at a very nice rate," Mr. Roach said. "Better than the average of the rest of the company. We did more than \$200 million in phone sales last year, which made us the largest independent telephone retailer outside of AT&T."

American Telephone & Telegraph Co., in its new condition, will also move aggressively into the marketing of consumer products that bring the computer into communications. But at the moment, Tandy has one advantage that even the Bell System cannot match — a worldwide retail distribution network.

"What makes us truly unique in the computer field is that we are the only company with our own distribution network, has always been the breadth of its product line. "We have 10 to 20 percent of the market of virtually every computer product we sell," Mr. Roach said.

which are computer centers. If the pilot program involving the 25 telephone stores is a success, Tandy will rapidly increase their number.

The possibilities for new products that combined computers and communications are endless. Tandy executives foresee the day before long when most standard kitchen stoves will have a microprocessor that will allow the on-the-go chef to dial up cooking instructions from afar.

Tandy's portable, TRS-80 Model 100, reportedly has caused concern among some out of fear that they might cause interference with an airplane's on-board navigational equipment. But Tandy spokesman said tests show their computers fall well within acceptable radiation levels for use on airplanes.

"I have used mine on about 20 different planes, and I always make a point of checking with the pilot," a Tandy executive, Ed Judge, said. "There's never been a problem."

Tandy is counting on a boom from sales of its portable computer, and it is similarly bullish about the prospects for its pocket pager and other telephone-oriented gadgetry.

"Over the long term, the residential customer is going to want a telephone system that has the same features he has become accustomed to in the workplace," Mr. Roach said.

Operating on the theory, Tandy is test-marketing a \$399 computer that can link ordinary ordinary phones with a sophisticated switching system. The \$399 pocket pager allows a user, once he hears a beep, to call a radio paging service that will deliver a message for as little as 34¢ per month and 20 cents a call. Other pagers — more expensive and not marketed by Tandy — have a feature that actually displays the caller's telephone number right on the pager.

Tandy's move into communications comes at an opportune moment. While all makes of home computers, it suffered flagging profits in 1982 and early 1983 as a result of the crowded market and competition. In the last two years, Tandy has also dropped from second to fifth in volume of sales in the computer market.

But the company's strength, in addition to the retail distribution network, has always been the breadth of its product line. "We have 10 to 20 percent of the market of virtually every computer product we sell," Mr. Roach said.

Building the world's mightiest machine.

— AL SENIA

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prevailing hardware-based approach, dating from telecommunications' infancy, with software-based "functional modularity".

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viously isolated islands of local computers and office automation systems. And make your whole corporate information system future-proof.

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themselves are no longer enough to give your company the competitive edge it needs. It takes telecommunications to realize their full potential.

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Herald Tribune

# BUSINESS/FINANCE

TUESDAY, OCTOBER 25, 1983

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## COMMODITIES

By H.J. MAIDENBERG

### Pause Seems at Hand in Proliferation Of New Futures and Options Products

**N**EW YORK — A pause in the proliferation of new futures and options products is at hand. But as welcome as this is to federal regulators and the weary brokerage houses, it is likely only to be a brief respite before the next wave of new products arrives.

One reason for the sudden slowdown in exchanges' requests to trade futures and options was a recent move by the Commodity Futures Trading Commission to impose a \$10,000 filing fee on any new product. But next year the exchanges plan to introduce more options, which have become the fastest-growing sector of the industry.

Susan Phillips, chairman-designate of the regulatory agency, explained the slowdown in filings:

"Before we imposed the fee, effective Sept. 23, there were 55 new contracts up for consideration. Previously, there hadn't been any fee. At the end of that day, exchanges had withdrawn 28 of them. We realize, of course, that many of the withdrawn filings had only been submitted for competitive reasons."

In fact, it was a practice of many exchanges to file whenever a rival did, just to be ready to offer a similar product. It has long been a fact that once an exchange has time to establish a successful market, it is extremely difficult for its rivals to take away its lead.

But Miss Phillips was concerned with other problems. For one, the agency's staff and budget are relatively small, she noted, while the cost of processing the filings keeps rising.

She added: "Above all, the time factor dictated our action. When Congress reauthorized the agency last year, it specifically ordered that we must process a filing within one year. Given our resources, we can only process 25 filings a year, if all goes well."

Interestingly, two of the withdrawn filings were for futures on two Dow Jones averages — transportation and utilities — that had been requested by the Chicago Board of Trade. The exchange also withdrew filings for five other index contracts and six commodity index futures. Last Friday, the Illinois Supreme Court ruled in favor of a suit by Dow Jones & Co. that sought to prevent the Chicago Board (or any other exchange) from trading futures based on its industrial share average.

However, Thomas P. Cunningham, chairman of the Chicago Board, said last Friday: "Thanks to our joint-access agreement with the American Stock Exchange, which we signed two days ago, we will be able to trade Amex's broad-and-narrow-based index options by early January."

The Chicago Mercantile Exchange has a similar agreement with the Chicago Board Options Exchange involving contracts on the Standard & Poor's 100 and 500 indexes.

#### Similar Contracts Planned

Had the Chicago Board prevailed, several other exchanges had planned to trade similar futures as well as options based on that average. But the New York Futures Exchange, a unit of the New York Stock Exchange, withdrew two contracts on the energy and transportation averages.

Chicago's MidAmerica Commodity Exchange withdrew 11 filings, including those for several financial, consumer-price-index and crude-oil futures as well as two London gold-price-fix applications. MidAmerica trades half-size contracts and wanted to be ready to trade similar versions of products that its larger rivals were preparing.

As for the options that are coming, Miss Phillips pointed out that a new pilot program now gives the exchanges the right to trade two options on futures or physical commodities. Only one option had been allowed on an older three-year pilot program.

And, if Congress approves, a new class of options, based on grain, soybean products and livestock, is expected to be introduced next year.

Thus, New York's Commodity Exchange is expected to offer options on silver along with its current ones on gold bullion. The American Stock Exchange has filed for an option on gold bullion. Other exchanges report they are still undecided about their choices.

Richard L. Sandor, senior vice president of Drivel Burnham Lambert Inc., former head of the Chicago Board's new products committee and an architect of several financial futures contracts, said:

The Chicago Board-Amex linkage was most fortuitous because it gives the exchange access to Amex's Major Market index, which has a 98 percent correlation with the Dow Jones industrial average. Actually, the industry doesn't need more index products because there are just so many dollars available in the marketplace."

Rather than seek new index and other trading products, Mr. Sandor said, "the exchanges should seek to attract more institutional hedgers and thus increase the liquidity of existing markets. Right now, the big arbitrage houses are providing much of the outside liquidity."

New York Times Service

## CURRENCY RATES

Interbank exchange rates for Oct. 24, excluding bank service charges									
	U.S.	U.K.	F.F.	DM	Fr.	Sw.	DK.	Yen	Others
Australia	2.8225	4.392	172.38	34.75*	13.647	5.607	132.38	21.625	5.8225
Austria	2.3234	70.8275	26.4105	4.6758	3.355	13.171	23.125	5.8225	
Belgium	2.609	3.97	—	22.72*	1.647	10.59*	4.950	122.05	27.245
Denmark	1.4971	2.955	—	11.025	2.2795	7.926	11.725	11.725	1.4971
Finland	1.8282	2.5740	—	11.025	2.2795	7.926	11.725	11.725	1.8282
Iceland	1.8205	2.5740	—	11.025	2.2795	7.926	11.725	11.725	1.8205
Ireland	1.8205	2.5740	—	11.025	2.2795	7.926	11.725	11.725	1.8205
Italy	7.982	11.25	—	11.025	2.2795	7.926	11.725	11.725	7.982
Malta	2.1109	3.7754	—	26.645*	3.7325	2.3717	45.369	1.2510	2.1109
Netherlands	1.8203	2.5740	—	11.025	2.2795	7.926	11.725	11.725	1.8203
Portugal	1.8209	2.5740	—	11.025	2.2795	7.926	11.725	11.725	1.8209
Spain	1.8209	2.5740	—	11.025	2.2795	7.926	11.725	11.725	1.8209
Sweden	1.8209	2.5740	—	11.025	2.2795	7.926	11.725	11.725	1.8209
United Kingdom	1.8209	2.5740	—	11.025	2.2795	7.926	11.725	11.725	1.8209
United States	1.8209	2.5740	—	11.025	2.2795	7.926	11.725	11.725	1.8209

## INTEREST RATES

Interest Rates									
Currency Deposits									
United States	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Bank Rate	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
Commercial Paper	11	11	11	11	11	11	11	11	11
Short-Term Loans	10	10	10	10	10	10	10	10	10
Commercial Papers, 30-180 days	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05
1-month Treasury Bills	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65
3-month Treasury Bills	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85
90-day Treasury Bills	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05
CD's 30-90 days	9	9	9	9	9	9	9	9	9
CD's 90-180 days	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25
West Germany	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%
Switzerland	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Japan	5	5	5	5	5	5	5	5	5
Other Money Rates	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%

Interest Rates									
Currency Deposits									
United States	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Bank Rate	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
Commercial Paper	11	11	11	11	11	11	11	11	11
Short-Term Loans	10	10	10	10	10	10	10	10	10
Commercial Papers, 30-180 days	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05
1-month Treasury Bills	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65
3-month Treasury Bills	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85
90-day Treasury Bills	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05
West Germany	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%
Switzerland	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Japan	5	5	5	5	5	5	5	5	5
Other Money Rates	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%

Interest Rates									
Currency Deposits									

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## BUSINESS BRIEFS

**Sears's Profit Rose 73% in 3d Period And 9-Month Earnings Climbed 89%**

CHICAGO (AP) — Citing a marked improvement in retail sales, Sears, Roebuck & Co. said Monday that its third-quarter profit rose 73 percent to a record from a year earlier, and that earnings for the first nine months soared 89 percent, to another record.

The retailer, the largest in the United States, said it earned \$288.8 million in the third quarter, or \$1.1 cents a share, up from \$166.7 million, or 48 cents a share, a year earlier. Revenue rose to \$8.9 billion from \$7.5 billion.

For the nine months, Sears earned \$795.5 million, or \$2.15 a share, up from \$401.8 million, or \$1.15 a share. Revenue climbed to \$25.1 billion from \$21.2 billion.

Edward R. Telling, chairman and chief executive officer, said strong improvement by the company's merchandise, insurance, real estate and financial-services groups contributed to the results.

**Polish Debt Accord Ready for Signing**

FRANKFURT (AP) — Polish financial officials and Western bankers will gather in Luxembourg Nov. 3 to sign a formal agreement rescheduling Warsaw's 1983 commercial debt, European banking sources said Monday.

Bankers involved in the Polish debt talks ruled out any last-minute snags and confidently disclosed plans to get 1984 debt-deferral talks under way as soon as this year's agreement is signed. Terms of the accord covering \$2.6 billion in interest and principal mirror preliminary conditions initialed by Western bankers and Polish officials in Vienna in August.

One banker close to the negotiations said Poland's 500 creditor banks have this week to comment on the agreement. "But we don't expect any problems," he added. As in 1981 and 1982, banks were forced to grant the Poles concessions this year, including a longer deferral period and a larger percentage of interest to be recycled into new trade credits.

**OPEC Seen Exceeding Output Ceiling**

LONDON (Reuters) — OPEC output so far in the fourth quarter may be running as high as 18.6 million or 18.7 million barrels a day, according to estimates prepared for a minister on the market monitoring committee of the Organization of Petroleum Exporting Countries, the Petroleum Intelligence Weekly said Monday.

But the publication said other late figures run closer to 18.4 million barrels a day. OPEC's official production ceiling is 17.5 million barrels a day.

Committee working papers show that more than half of OPEC's 13 members are significantly exceeding their quotas, it said, adding that OPEC oil ministers are increasingly aware that overproduction not only may lead to a dangerous surplus in 1984, but also would diminish buyers' perceptions that OPEC was determined to act as a cohesive group.

**Chrysler, UAW Sign \$1-Billion Pact**

DETROIT (UPI) — The United Auto Workers union and Chrysler Corp. Monday signed a two-year \$1-billion contract that the union's president, Owen Bieber, called another symbol of the "renaissance of Chrysler."

Bargainers for the union and the automaker signed the contract, which had been negotiated and ratified more than a month ago. The pact gives U.S. workers an immediate pay raise and eventual wage and benefit parity with their counterparts at General Motors Corp. and Ford Motor Co.

**Recovery Seen Lasting Through '85**

NEW YORK (AP) — A panel of 35 corporate financial officers expects the U.S. recovery to continue strongly in election-year 1984 and through 1985 as well, a business research group said.

The panel of senior executives, surveyed twice a year by the Conference Board, said on Sunday that the gross national product, after adjusting for inflation, would average 4.8 percent growth in the fourth quarter this year, 5 percent in 1984 and 4 percent in 1985. GNP is a nation's total output of goods and services.

**Israeli Stock Market Resumes Trading**

TEL AVIV (AP) — Bank shares were down 17 percent Monday when the Israeli stock market resumed full trading for the first time in two weeks.

The drop meant that the shares had lost 40 percent of their market value since the market was hit by panic selling and closed Oct. 9 to avert a collapse amid a national economic crisis.

The decline in the shares' value was announced on the stock exchange floor at the start of trading after major banks spent the night compiling sell orders and set the new stock prices.

All of these securities having been sold, this announcement appears as a matter of record only.

October, 1983

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**Amhold and S. Bleichroeder, Inc.**

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**Shipowners Are Buying Despite Glut**

By Paulette Roberge  
*International Herald Tribune*

LONDON — Despite the overcapacity in the shipping industry, shipowners have been unable to resist the current low prices for new ships.

"I always say that there's no logic in buying what you don't need just because it's cheap," said Jim Davis, chairman of the International Maritime Industries Forum, which held its annual meeting in London last week and has a membership of 87 shipowning, shipbuilding, oil and banking companies. "But," Mr. Davis added, "companies continue buying ships."

The excess tonnage in the shipping industry is seen partly as a result of low-cost credit advanced to shipowners by banks and the very low rates for new ships offered by shipyards desperate to survive in a shrinking market. The latest are partly kept alive by subsidies from governments anxious to avert job losses and to compete with shipbuilding now concentrated in the Far East.

In the past six months alone, shipowning companies, unable to resist the low rates for new ships, have ordered 243 bulk carriers. And this is in spite of an annual decline of 4 percent in total sea-borne trade from 1979 to 1982.

While owners seem to expect that the worst of the slump is now behind them, and that trading conditions can only improve, they seem incapable of exercising any restraint when it comes to ordering new ships, said H. Rootiep of Nedlloyd Groep of the Netherlands.

But, Hong In-Kie, president of Daewoo Shipbuilding & Heavy Machinery, one of South Korea's biggest shipbuilding groups, said

"Just when things are starting to look up, it is the bulk shipping industry itself which is ruining any prospect of a better market by flooding it with new tonnage, which, however efficient or economical on fuel, cannot hope to trade profitably until there is worthwhile improvement in rates," Mr. Rootiep said.

"By worthwhile, I mean a sustained rise which would restore spot rates to at least the level at which it is possible to cover all costs and produce a trading plus."

Mr. Davis said in an interview that the current slump is forcing many shipowning companies to shrink, but the industry will not turn around unless large-scale restraint is maintained. The meet was a successful one, he said, as everyone acknowledged the need for restraint.

"I'm enormously encouraged that everyone is on the same wavelength — everyone knows that the problem is very deep and very chronic," Mr. Davis said.

The forum believes that it is governments that hold the key to the problem, as they encourage the building of speculative vessels through subsidy, Mr. Davis said. As long as this type of building continues, "there can be no end to the plight of the world maritime industries," he said.

T. Jon Parker, of Harland & Wolff Ltd., a British shipbuilder, went further, in saying that no case can be made for any expansion in shipbuilding capacity in the 1980s.

Mr. Parker, of Harland & Wolff Ltd., a British shipbuilder, went further, in saying that no case can be made for any expansion in shipbuilding capacity in the 1980s.

But, Hong In-Kie, president of Daewoo Shipbuilding & Heavy Machinery, one of South Korea's biggest shipbuilding groups, said

South Korea, the second-largest shipbuilding nation after Japan, is aiming to become world leader.

Mr. Hong said that Japan "will lose its seat before long" as the world's leading shipbuilder.

He suggested that the industrialized countries should leave such industries as shipbuilding to nations that are now building their economies. Instead, the industrial nations should concentrate on the higher-technology areas in which they specialize.

Mr. Hong was generally viewed as "very hawkish," as described by Mr. Davis. One forum member said that Japan entered an expanding market that could accommodate competition, but South Korea is heavily subsidizing its yards to achieve its goal of winning 25 percent of the market at a time the market is steadily shrinking.

"I cannot expect that the Free World will stand by and allow itself to be conquered by unconstrained and unrealistic policies, forcing a collapse of the West's shipbuilding industry," Mr. Parker said.

The South Koreans have said repeatedly that their quarter is not with Western Europe but with Japan. This, said Mr. Davis, is like saying that no one in a swimming pool will feel the ripples of two people fighting in the corner.

The South Koreans, according to Mr. Davis, are expanding their shipbuilding industry by offering ships below cost. This, Mr. Davis said, is "less than helpful, and, indeed, madness."

He said that the forum fears that Western European governments would retaliate against South Korea by means of intense protectionism.

**Trans World Plans to Spin Off Its Airline Unit**

(Continued from Page 17)  
ing airline likely to concentrate on its money-making international routes and cut back its domestic service and costs.

For the third quarter, the airline said it had an overall after-tax profit of \$75.5 million, up from a \$64.9 million profit a year earlier.

For the first nine months, the airline had a loss of \$33.4 million, wider than the deficit of \$19.8 million a year earlier.

In addition to TWA, Trans World operates Canteen, a food service; Spartan Food Systems Inc., which operates fast-food services; and Hardee's franchise restaurants; Kilo International, operator of 89 hotels in 43 countries and expanding in the United States under the name Vista International; and Century 21, one of the largest real estate franchises.

All of the non-airline subsidiaries have been profitable while the airline was losing money.

Overall, the corporation said it earned \$88.3 million in the quarter.

For the first nine months, Trans World said earnings totaled \$13.6 million, down 48 percent from of \$26.2 million, "reflecting decreases from airline and hotel performance."

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BAHRAIN	23.42.41	Helsinki	64.02.50	NEW YORK	265.09.44
BARCELONA	302.27.82	HONG KONG	29.38.76	OSLO	41.61.15
BERLIN (WEST)	261.90.13	ISLON	89.30.98	PARIS	16079.6000
BRUSSELS	218.28.69	LONDON	628.37.51	SINGAPORE	330.08.00
COPENHAGEN	0430.00.09	LUGANO	56.06.29	STOCKHOLM	21.77.27
DUBLIN	72.61.75	LUXEMBOURG	48.45.58	STUTTGART	22.03.13
FRANKFURT	29.28.00	MADRID	402.61.31	VIENNA	54.11.06
GENEVA	28.12.77	MILAN	345.23.69	ZURICH	302.08.12

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# Oil and Money in the Eighties

AN INTERNATIONAL HERALD TRIBUNE/OIL DAILY CONFERENCE  
PARK LANE HOTEL, LONDON, DECEMBER 8 AND 9, 1983

"The global impact of shifting markets" will be the theme of the fourth annual International Herald Tribune/Oil Daily conference on "Oil and Money in the Eighties."

The conference will focus this year on what caused the radical shift in the oil market in recent years and what the implications of the turnaround are for the future.

## DECEMBER 8

### KEYNOTE ADDRESS

Donald Hodel, United States Secretary of Energy

U.S. ENERGY: THE NEXT TEN YEARS

John Lishiboski, Executive Director, Petroleum Industry Research Foundation, New York

### STRUCTURAL VERSUS CYCLICAL CHANGE IN THE OIL MARKET

Moderator: Herman Franssen, Chief Economist, International Energy Agency, Paris

Robert Maire, Director, Oxford Institute for Energy Studies

Arie de Geus, Coordinator of Planning, Shell International Petroleum Company Limited, London

William Finger, Coordinator of Energy Analysis, Exxon Company, Houston

ARAB BANKING'S ROLE IN OAPEC COUNTRIES' INVESTMENT STRATEGIES

Abdullah A. Saudi, President and Chief Executive, Arab Banking Corporation, Bahrain

CORPORATE THINKING ON THE ENERGY INVESTMENT OUTLOOK

Robert Anderson, Chairman, Atlantic Richfield Corporation, Los Angeles



## American Medical to Purchase Lifemark

The Associated Press

HOUSTON — American Medical International Inc. said it had agreed to acquire Lifemark Corp. in a transaction valued at about \$1 billion.

If completed, the merger would create the second-largest U.S. hospital-management company behind Hospital Corp. of America.

The acquisition of Houston-based Lifemark by American Medical, based in Beverly Hills, California, is subject to approval of both companies' shareholders as well as

government regulatory agencies, the companies announced Sunday.

Under the proposal, each of Lifemark's 21.8 million shares would be exchanged for 1.7143 shares of American Medical stock. Based on American Medical's closing price of \$27 a share on the New York Stock Exchange Friday, Lifemark shareholders would receive \$46.50 a share worth of American Medical common stock.

Lifemark operates 25 hospitals and other medical facilities primarily in the southern United States. The company also provides management, pharmacy, cardio-pulmonary and physical-therapy services to the hospital industry on a contract basis.

American Medical owns, operates and develops hospitals and provides health-care services in more than 500 cities worldwide.

In the year ended Aug. 31, American Medical earned \$101.5 million, or \$2.05 a share, on revenue of \$1.68 billion. In 1982, Lifemark had net income of \$27.8 million, or \$2.47 a share, on revenue of \$483 million.

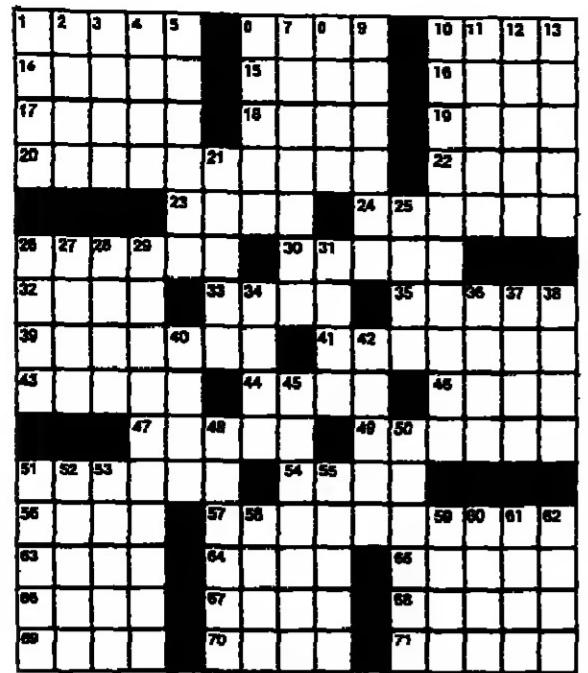
The agreement came less than two weeks after Lifemark said it had held talks with at least two of its major competitors, including American Medical, about the possibility of being acquired.

Lifemark also granted American Medical an option to buy 3.55 million Lifemark common shares at \$45.50 each, and an option to buy four Lifemark hospitals for \$258 million under certain conditions.

### Floating Rate Notes

Oct. 24

	Banks		
Amex/Mkt corp/Stat. Corpus Christi	\$140.000		
Allied Irish 24-24	10.00	2.00	100.00
Allied Irish 25-27	10.00	2.00	100.00
Amcor 24-24	10.00	2.00	100.00
Amcor 25-27	10.00	2.00	100.00
Amcor 26-27	10.00	2.00	100.00
Amcor 27-27	10.00	2.00	100.00
Amcor 28-28	10.00	2.00	100.00
Amcor 29-29	10.00	2.00	100.00
Amcor 30-30	10.00	2.00	100.00
Amcor 31-31	10.00	2.00	100.00
Amcor 32-32	10.00	2.00	100.00
Amcor 33-33	10.00	2.00	100.00
Amcor 34-34	10.00	2.00	100.00
Amcor 35-35	10.00	2.00	100.00
Amcor 36-36	10.00	2.00	100.00
Amcor 37-37	10.00	2.00	100.00
Amcor 38-38	10.00	2.00	100.00
Amcor 39-39	10.00	2.00	100.00
Amcor 40-40	10.00	2.00	100.00
Amcor 41-41	10.00	2.00	100.00
Amcor 42-42	10.00	2.00	100.00
Amcor 43-43	10.00	2.00	100.00
Amcor 44-44	10.00	2.00	100.00
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**ACROSS**

- 1 Stitched quickly  
6 Multiplied  
10 Boundary  
14 Biblical commander  
15 Newspaper sect.  
16 Medical device  
17 Artis Winslow —  
18 Chorus member  
19 Pear or quince  
20 Made tracks  
22 Declare  
23 Practice girth control  
24 Comes in  
25 Deteriorate  
30 Steinbrenner, to the Yankees  
32 Collier's access  
33 Stars in surprise  
35 Delay bedtime  
39 Muscle conducive to turning  
41 Phoenician's Aphrodite  
43 Play  
44 Group of devotees  
46 Row  
47 Airport tower  
49 Danish seaport
- DOWN**
- 1 Autumnal sounds  
2 In a frenzy  
3 Decision at a christening  
4 Secundan  
5 Flaut  
6 Slope  
7 Desk type  
8 Cigar or leather follower  
9 Stiff; dull  
10 British  
11 Herd  
12 More courageous  
13 Those who watch
- 51 Spanish saint  
54 Concerning  
55 Gobian  
57 Sudden departure  
63 Groto  
64 "When the frost... punkin'" Riley  
65 External Passage  
66 Pompey for Pompey  
67 Honshu City  
68 Char  
69 Oodles  
70 Bren and Sten  
71 Obliterare
- 51 Spanish saint  
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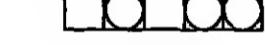
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**DENNIS THE MENACE**

"MARTHA, WOULD YOU GET THAT AWAY FROM HIM BEFORE EVERYTHING BECOMES A NAIL?"

**JUMBLE**

Unscramble these four Jumbles, one letter to each square, to form four ordinary words.

**MOVEN****RABIR****GOUTIN****WHOALL**

Answer:

THAT SCRAMBLED WORD GAME

by Hem Arnold and Bob Lee

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10-25

JIM DAVIS

## Race Within a Race

By Dave Anderson  
New York Times Service

**N**EW YORK — For more than two hours on Sunday, the umbrellas had been up near the finish line. Under the red-white-and-blue New York Marathon banner, two men held a thick white tape. When policemen on motorcycles rumbled along the Central Park roadway, the people knew the winner would soon arrive.

Moments later, Rod Dixon of New Zealand, wet from the rain and sweat, appeared and the applause began. After breaking the tape, Dixon raised his arms high and then knelt, as if in prayer, before getting to his feet, wobbling slightly. Nine seconds later, Geoff Smith of England stumbled across the finish line and toppled to the pavement. Almost immediately, he was up and hanging onto the shoulders of three men who had raced to help him.

One by one, the other leaders were crossing the finish line, some in a stagger, some smoothly. But behind them was the race within the race — the attempt to qualify in May for the trials that will determine the three men and three women who will represent the United States in the marathons (the first for women) at the 1984 Summer Olympics.

Beginning with the Boston Marathon last April through next year's Boston race, an American must better a specific time to qualify for the Olympic trials. For men (who will attempt to qualify at Buffalo on May 26), that time is 2 hours 19 minutes 51 seconds; for women (who will run in Olympia, Washington, on May 26), it is 2:51:16.

In 1980, one of the smallest world-class marathoners, 5-foot-8-inch Tony Sandoval, won the Olympic trials in 2:10:15. His time still stands as the ninth best by an American; it also turned out to be faster than the winning time at the 1980 Games in Moscow, which Sandoval missed because of the boycott.

Until Sunday he had not yet qualified for the 1984 trials, but he ran 2:13:21, finishing 18th.

"I knew I'd qualified, I saw the time up there on the clocks on the finish line," he said a few minutes later. "My fluidity was there, but I've got to build up my cardiovascular supply."

Spoken like the physician he is — an internal medicine intern at the University of Colorado. Huddled in one of those aluminum canopies that made the marathoners resemble walking candy wrappers, 25-year-old Sandoval stood under a dripping tree with his wife and their little daughter.

"Not running at Moscow was a disappointment," he said. "I didn't run many marathons for a couple of years because I was too busy with my medical studies. And now I've got to make the team all over again. It's nice to know I've qualified. But between now and the trials in Buffalo, I've got to build my cardiovascular supply," he repeated.

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Now, dozens of marathoners had finished. With their pewter medals hanging from ribbons, they made their way toward the buses, where little plastic bags of food awaited them. But every so often, a finisher could be seen on a stretcher.

Walking slowly was 24-year-old Julie Shea from Raleigh, North Carolina, wearing tiny pearl earrings and holding a red rose against her face. Two years ago, she was the third woman finisher, but last year an ailing leg forced her to stop after about seven miles.

"I think it was downtown Brooklyn somewhere," she recalled. "I remember I went into a damp, dark garage with a big white sign where some college kids gave me a sweat suit to put on and fed me breakfast. I'll never forget how kind they were."

This year she qualified for the Olympic trials with a 2:39:02, finishing 12th among the women, 372nd overall.

"Now that I've qualified," she said, "as long as I stay healthy, I think I can make the Olympic team."

Shea, a graduate of North Carolina State, had been voted the Atlantic Coast Conference athlete of the year in 1980 and 1981, ahead of first Nancy Lieberman, the all-American basketball player at Old Dominion, and then Ralph Sampson, the all-American basketball player at Virginia.

At the 1980 Association for Intercollegiate Athletes for Women championship at Eugene, Oregon, she swept the 3,000-, 5,000- and 10,000-meter runs, an unprecedented triple.

About three dozen men and two dozen other women qualified for the Olympic trials Sunday; a total of about 300 men and 200 women are expected to run in each marathon. The first three finishers (and the fourth as an alternate) will be among the throng of marathoners who will leave the starting line in the Los Angeles Coliseum. The women's marathon will be run on the first day of track and field competition; the men's, as usual, will be on the last day.

Grete Waitz of Norway, now a five-time women's winner in New York, and American Alberto Salazar, the world-best holder and three-time New York champion who didn't compete Sunday, will surely be the favorites. But Sandoval and Shea took their first strides toward Los Angeles by winning their races within a race.

## SPORTS BRIEFS

### 3 World Lift Records Reported

**MOSCOW (AP)** — Weightlifters from the Soviet Union and Bulgaria set three world records Sunday in the 123-pound (56-kilo) class of the World and European Weightlifting Championships, Tass reported.

Otens Mirzoyan of the Soviet Union jerked 363 pounds, bettering the record of 353.1 set by Andreas Letz of East Germany. Mirzoyan won the overall division with a total of 643.5 pounds, breaking his own mark of 632.5 set earlier this year.

Bulgarian Nain Sulcimakov's total of 638 pounds included a record-breaking snatch of 286, bettering by 4.4 pounds the record set by Wu Shun-de of China.

### Teltscher Beats Gomez in Tokyo

**TOKYO (AP)** — Eliot Teltscher of the United States beat top-seeded Andres Gomez of Ecuador, 7-5, 3-6, 6-1, on Monday to win the men's singles final at the Japan Open tennis tournament.

Eisaku Inoue of Japan downed American Shelly Solomon, 7-5, 6-1, for the women's title.

The men's doubles final, an all-U.S. affair, went to Sammy Giannina and Steve Meister, 6-4, 6-7, 7-6, over brothers Tom and Tim Gillikin.

Australians Pam Whitten and Christine O'Neill won the women's doubles by defeating Americans Helena Manusz and Micki Schillig, 6-3, 6-3.

### Stewart Wins Disney Golf by 2

**LAKE BUENA VISTA, Florida (AP)** — Payne Stewart shot a 5-under-par 67 Sunday to finish at 19-under 269 and win the Walt Disney World Classic golf tournament by two strokes.

Nick Faldo of England, with a 66, tied Mark McCumber (a closing 67) or second at 271. Scott Hoch, who shared the third-round lead with Stewart, finished 70/272.

### La Porte to Defend WBC Crown

**MILAN (AP)** — World Boxing Council featherweight champion Juan La Porte of Puerto Rico will defend against Italian Ricco Stecca in Rome, Milan in December. Stecca's manager, Umberto Branchini, announced late Sunday.

#### Transition

**BASKETBALL** National Basketball Association PORTLAND — Signed Clyde Drexler, forward, to a multiyear contract.

**FOOTBALL** National Football League LEAGUE — Arrived 50 players from N.Y., Jets and L.A. Rams have been signed a total of \$15,750 for takeovers in an off-season signing a come Sept. 25.

**HOCKEY** National Hockey League PITTSBURGH — Traded Rich Sutter, right wing, and a second-round 1984 draft choice to Philadelphia for Ron Flechette and a third-round 1984 draft choice. Flechette, 21, offensive rookie, and Kevin Taylor, defensive rookie, to one-year contracts.

**TORONTO** — Signed Marc McCourt, center, to a five-year contract.

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Gary Lewis comes down to earth after unsuccessfully trying to block Benny Ricardo's 44-yard second-period field goal Sunday in Green Bay, Wisconsin. Ricardo also kicked a 32-yarder in overtime to beat the Packers for Minnesota, 20-17.

## Malone, 76ers Start Quest for 2d Straight NBA Title

By Sam Goldaper  
New York Times Service

**N**EW YORK — If the 76ers stay healthy and if Moses Malone continues to be the same dominant force, Philadelphia is favored to become the first team since the 1968-69 Boston Celtics to win successive National Basketball Association championships.

Following the arrival of Larry

#### NBA PREVIEW

Bird for the 1979-80 season, Boston won three straight divisional titles. Philadelphia snapped the string after the acquisition of Malone, to become the first team since the 1968-69 Boston Celtics to win successive National Basketball Association championships.

The Nets are still waiting for the real Otis Birdsong to surface; free

of injury, he ranks with the league's

best offensive guards, but in his

two seasons with the Nets he has

missed 75 games with various il-

lments. Buck Williams is an ideal

power forward and Albert King is

joining the star class among small

forwards. The Nets need exper-

ience and leadership in the backcourt.

The Washington Bullets' strong

finish last season raises the pos-

sibility that all five division lead-

ers will play off shots. The Bullets won 13 of their last 17 games. The

toughness of Jeff Ruland and Rick

Mahorn, plus the scoring of Greg

Ballard, give the Bullets a strong

front line. The midseason signing

of Ricky Sobers, coupled with the

emergence of the 6-10, 240-pound

Ruland as a first-rate center, high-

lighted the second-half surge.

The addition of Tom McMillen

will help the offense as will Jeff

Malone, the top draft choice, if he

can score the way he did at Mississ-

ippi State. He averaged 26.8

points, third best nationally. In his

first five exhibition games, Malone

averaged 19 points — in only 20

minutes a game — and shot 65

percent from the field.

**CENTRAL DIVISION**

How much Bob Lanier may

play following his second knee op-

eration remains to be seen. The

Washington Wizards' defense

has been outstanding, but Lanier

is not the only one who has been

outstanding. The Wizards' offense

has been erratic, but the Wizards

have been good on the road, and

they have been good at home.

The Boston Celtics' big, strong

and talented front line made possi-

ble the trade to Phoenix of Rick

Robey for Dennis Johnson, bring-

ing help to a faltering backcourt.

The problems focused on aging

Nate Archibald, now with Milwau-

kee, and Quinn Buckner never fit

in. Danny Ainge's scoring im-

proved and Gerald Henderson has

great quickness but has trouble hit-

ting from the outside.

If K.C. Jones can keep Johnson

happy, he will lend toughness, re-

bounding, passing and scoring,

some of the missing ingredients.

With a settled backcourt, the

Celtics would improve. Bird's scor-

ing, passing and overall game is

without equal among forwards. Kev-

in McHale, the league's best shot-

blocker forward, can also score

and rebound, as can Robert Parish,

7-3 and the top draft choice, have

bolstered the team.

The Bucks are led by Marques

Johnson, Sidney Moncrief, and Ju-

nior Bridgeman, who are among the

league's finest offensive re-

bounders. Archibald's ability to

handle the playmaking while Paul

Priddy continues to learn will be a

major factor.

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## ART BUCHWALD

## Postscripts on Publicity

**WASHINGTON** — When you're out flogging a new book, which I've been doing for the last three weeks, you run into some very interesting people.

No one in the United States is too big to refuse the publisher's request to appear on talk shows.

I've been on radio and television and newspaper interviews in every town from Kalamazoo to Burbank. Whenever I'm about to take a plane home, I get an urgent call from the publicity people at Putnam's.

"The book isn't moving in Casper, Wyoming. Would you mind stopping there on your way back from Atlanta and doing the 'Wake Up With Sally' radio show?"

I'm not alone on the road these days. I discovered this when I had a layover in Chicago between Detroit and Milwaukee. It was 1 o'clock at night, and I tried to catch a few winks in a stone chair in the O'Hare Airport terminal.

The security guard woke me up and wanted to know if I had a home. I said I wasn't sure any more. I was out promoting my book. He said the airport had a special green room for people like me. He escorted me to a room, and much to my surprise it was jammed with other authors all waiting for midnight connections so they could get on early morning TV shows around the country.

Erma Bombeck was there doing her laundry in the sink. Dinah Shore was trying to cook a soufflé over a can of Sterno. Russell Baker was explaining the gross national product to John Kenneth Galbraith. Harold Robbins was talking to Gloria Steinem about doing a book together, and former President Jimmy Carter was whistling a new chair he hoped to have ready for the "Merv Griffin Show."

I went over to grab a cup of coffee. "What happened to all of the Danish pastry?" I asked.

Nathan Pritkin, who had his new book under his arm, said, "Danish pastry is very hard for you. Have a carrot instead."

James Michener was scribbling

in a notebook. "Did you know," he said to me, "that before the Ice Age, O'Hare Airport runways were inhabited by 40-foot dinosaurs, then glaciers from the North Pole swept down and all we have left from that period is Lake Michigan?"

I was about to answer him when I saw a beautiful girl in black leotards sitting on the floor stretching her legs over her head. "Who is that?" I asked Erma Bombeck.

"Victoria Principal of the 'Dallas' show. She hopes to push Jane Fonda off the best-seller list, I hate her."

"You mean because she's got a new book?"

"No, because she can put her legs over her head."

There was a lot of tension in the room until Leo Buscaglia, who was pushing another book on love, came in and started hugging everybody, and made us hug each other. Seymour Hersh, who was still out promoting his Kissinger book, said he didn't want to beugged. Buscaglia told him the only way he could ever make peace with Kissinger was to kill him. I started hugging Victoria Principal and Dinah Shore got mad, so I hugged her.

We were all starting to feel pretty good when a security guard came in with Joan Mondale and said to the lady running the green room, "I found her sacked out on the baggage carousel at American Airlines."

"What book are you plugging?" someone asked Mrs. Mondale.

"I'm not selling a book. I'm going on talk shows to promote my husband for the Democratic presidential nomination."

"That's unfair to use up our time on talk shows just to get your husband to be president," I protested. Mrs. Mondale became upset. "Mrs. Reagan is doing it," she said. "Why shouldn't I?"

Buscaglia said, "Getting your husband elected president is not as important as selling a book, but we still love you." He ushered us all to Mrs. Mondale, which we did.

A voice came over the loudspeaker:

"Air Wisconsin now leaving from Gate 118 for Racine, Waukegan and Appleton. Passengers with small children, senior citizens in wheelchairs and authors plugging their books may board first."



## Susanna Agnelli

In Italian Politics, I Think the Best Way  
Of Asserting Personal Opinions  
Is to Be Unobtrusive'

By Judy Klemesrud  
*New York Times Service*

**N**EW YORK — In the early 1970s Susanna Agnelli, Suni to her friends, lived in New York, leading the kind of glamorous, fast-paced life that one might associate with a very wealthy woman who is a granddaughter of the founder of Fiat.

Agnelli, 61, was in New York again recently, but this time her visit was an official one. She is now an Italian senator who on Aug. 13 was named undersecretary of state for foreign affairs.

A tall, strong-faced, no-nonsense woman, she is the divorced mother of six and grandmother of nine. She is also the mayor, since 1974, of Monte Argentario, a coastal resort region north of Rome; a past member of the European Parliament; and the writer of a popular weekly advice column in the magazine *Oggi*. She has had a seat in the Chamber of Deputies since 1976.

Does she consider herself a feminist? "No. I think feminists always have an aggressive attitude and never have a balanced vision of things. They always get furious at things like President Reagan's comment about how men would still be living in caves if it weren't for women. I think that was probably a compliment on Reagan's part. It was no reason to get furious. You should get furious when people are demeaning or saying nasty things."

Still, Agnelli believes that many high-ranking men in Italian politics view her as "something of a joke." "I sometimes get the feeling that they think, 'Why the hell have they sent this woman here to discuss this important business?'"

In my party they like me to run for office because I get a lot of votes. But when it comes time for something important, like making an important political speech, they're not about to let a woman do it."

But she thinks that men in Italy, especially the younger ones, are becoming "much less macho." There is evidence of this, she said, in a number of new movies in which young men ask their female lovers if they have become one of her trademarks.

"Everybody asks what it is," she said in flawless English. "I carry my spectacles in it so I know I'll always have them with me. In Italy people think it is an

annikidnapping device that can keep the police or something."

As undersecretary, Agnelli has been assigned responsibility for two areas: relations with North and South America, and cultural affairs. She is the first in the post to be given this dual responsibility, she said. Affiliated with the small, centrist Republican Party, she is one of 10 female members of the 315-seat Senate (there are 40 among the 630 deputies).

Agnelli said more Italian women would be elected to office if they were not so aggressive.

"I think the best way of asserting personal opinions is to be unobtrusive," she explained. "Speak very little, and possibly in a low voice, and people will listen to you more."

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